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**Report for the Medical Checkup  
Completeness Study**

**RFP 529-08-0170**

Submitted by:



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## Glossary

**ABSOLUTE COMPLETENESS RATE** – The percentage of medical records for which reviewers observed completion of all age- and risk-appropriate medical checkup components.

**AVERAGE COMPLETENESS RATE** – The sum of the number of completed medical checkup components observed among medical records reviewed, divided by the total number of expected components to be completed, based on age- and risk-appropriateness criteria.

**COMPLETENESS** – The result of a medical record review in which a nurse reviewer observed documentation that a provider completed a medical checkup component that was appropriate for the patient's age or risk, as specified in the manual, or documentation that the parent/patient refused, or documentation that a follow up visit was needed (due to patient illness, lack of patient cooperation or because the parent/patient left prior to completion of the medical checkup).

**COMPONENT** – An age- or risk-appropriate screen, test, exam or other type of procedure that the Texas Health Steps program requires providers to offer children on Medicaid during a medical checkup, as specified in the Texas Medicaid Provider Procedures Manual

**DELIVERY MODEL** – The structure that defines how Medicaid services are provided to a Medicaid enrollee. Texas Medicaid uses the following delivery models: Fee-for-Service, Primary Care Case Management and Health Maintenance Organizations through STAR and STAR+PLUS.

**EARLY PERIODIC SCREENING, DIAGNOSIS, AND TREATMENT (EPSDT)** – Medicaid's comprehensive preventive child health service for individuals birth through 20 years of age. EPSDT was defined by federal law as part of the *Omnibus Budget Reconciliation Act (OBRA)* of 1989 legislation and includes periodic screening, vision, hearing and dental preventive and treatment services. In addition, Section 1905(r)(5) of the *Social Security Act (SSA)* requires that any medically necessary health care service listed in the Act be provided to EPSDT clients even if the service is not available under the state's Medicaid plan to the rest of the Medicaid population. A service is medically necessary when it corrects or ameliorates the client's disability, physical or mental illness or chronic condition. In Texas, EPSDT is known as the Texas Health Steps Program.

**FEDERALLY MANDATED SCREENING ELEMENTS** – Federal regulations 42 U.S.C. 1396d(4)(1)(B)(i)-(v) ("federally mandated elements") require that EPSDT screenings must, at a minimum, include the following five elements:

1. a comprehensive health and developmental history (including assessment of both physical and mental health development),
2. a comprehensive unclothed physical exam,
3. appropriate immunizations (according to age and health history),
4. laboratory tests (including lead blood level assessment appropriate for age and risk factors) and
5. health education (including anticipatory guidance).

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**FEE-FOR-SERVICE (FFS)** – The traditional healthcare payment system, under which physicians and other providers, such as Texas Health Steps (THSteps) dentists, receive a payment for each unit of service they provide.

**FREW v. SUEHS** – A class action lawsuit that was filed against Texas in 1993 that alleged that the state did not adequately provide Medicaid Early and Periodic Screening, Diagnosis and Treatment (EPSDT) services. In 1995, the state negotiated a consent decree that imposed certain requirements on the state. In 2007, the state negotiated a set of corrective action plans with the plaintiffs to implement the consent decree and increase access to EPSDT services. The 80<sup>th</sup> Legislature (2007) appropriated an estimated \$1.8 billion in funding for the 2008-09 biennium to implement the consent decree and the corrective action plans, to increase provider payments for certain services and to finance other initiatives related to the lawsuit.

**HEALTH MAINTENANCE ORGANIZATION (HMO)** – An organization that delivers and manages health services under a risk-based arrangement. The HMO usually receives a monthly premium or capitation payment for each person enrolled, which is based on a projection of what the typical patient will cost.

**MANUAL** – See **TEXAS MEDICAID PROVIDER PROCEDURES MANUAL**.

**MEDICAL CHECKUP** – A preventive health visit that children on Medicaid should receive periodically, based on age, as defined in the periodicity schedule, and which is reimbursed through procedure codes 99381 through 99385 and 99391 through 99395.

**OTHER THSTEPS** – The set of components that the THSteps program requires providers to perform during a medical checkup, as appropriate to the patient's age and risk, and defined in the manual, but which were not assigned to one of the five federally mandated elements during the development of the analysis plan of this Medical Checkup Completeness Study.

**PERIODICITY SCHEDULE** – The THSteps Medical Checkups Periodicity Schedule for Infants, Children and Adolescents (Birth Through 20 Years of Age) is a section within the Texas Medicaid Provider Procedures Manual. The periodicity schedule indicates the age at which providers should conduct each exam, screen, test or measurement at a medical checkup for children on Medicaid in Texas.

**PRIMARY CARE CASE MANAGEMENT (PCCM)** – A non-capitated managed care option in which each participant is assigned to a single primary care provider who must authorize most other services, such as specialty physician care, before they can be reimbursed by Medicaid.

**PRIMARY CARE PHYSICIAN (PCP)** – A physician or provider who is responsible for providing initial and primary care to patients, maintaining the continuity of patient care and initiating referral for care.

**PRIMARY SAMPLING UNIT (PSU)** – A distinct element developed for the purpose of comparing study data that is based on the type of delivery system model (e.g. managed care or fee-for-service), service delivery area and assigned HMO if HMOs are operational in the specific service area.

**PROGRESS NOTES** – Progress notes are a required component of a Texas Medicaid medical record and generally include the following information: patient’s complaint or reason for visit; results of physical examinations; tests, procedures and medications ordered by physician; diagnoses and problems identified; and health education/preventive services performed.

**PROVIDER** – A person, group or agency that provides a covered Medicaid service to a Medicaid client.

**SERVICE DELIVERY AREA (SDA)** – Regions of the state in which clients receive Medicaid services through an HMO and that are treated as a unit in terms of planning and implementation of managed care strategies.

**STAR HEALTH** – A statewide managed care program that provides coordinated health services to children and youth in foster care and kinship care. STAR Health benefits include medical, dental and behavioral health services, as well as service coordination and a Web-based electronic medical record. The program was implemented on April 1, 2008.

**STAR+PLUS PROGRAM** – Implemented in 1998, this managed care program provides integrated acute and long-term services and supports to people with disabilities and the elderly in Bexar, Harris, Harris Expansion, Nueces and Travis Service Areas. Inpatient hospital services (with some exceptions for certain behavioral health services) are carved out of the capitation payments for STAR+PLUS members. The Health and Human Services Commission contracts with health maintenance organization (HMOs) to provide, arrange for and coordinate covered services.

**STATE OF TEXAS ACCESS REFORM (STAR)** – Texas’ Medicaid managed care program in which the Health and Human Services Commission contracts with Health Maintenance Organizations (HMOs) to provide, arrange for and coordinate preventive, primary and acute care covered services to non-disabled children, low-income families and pregnant women. See also **HEALTH MAINTENANCE ORGANIZATION**.

**TEXAS HEALTH STEPS (THSteps) Program** – The name in Texas for its Medicaid Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program. THSteps provides medical and dental prevention and treatment services for children of low-income families from birth to age 21. The program offers comprehensive and periodic evaluation of a child’s health, development and nutrition status, as well as vision, dental and hearing care.

**TEXAS MEDICAID PROVIDER PROCEDURES MANUAL** – The policy document published annually that serves as a comprehensive guide for Texas Medicaid providers and contains information about Texas Medicaid benefits, policies and procedures. THSteps policy and requirements are described in Section 43 of the manual and are also referenced in other parts of the manual. The *2008 Texas Medicaid Provider Procedures Manual* was the source for defining data elements for use in this study and represents policy implemented as of October 31, 2007.

## Executive Summary

As part of the Texas Health and Human Services Commission's (HHSC) compliance with the requirements of a Consent Decree dated February 1996 and a Checkups Corrective Action Order (CAO) dated September 5, 2007, in the class action lawsuit *Frew v. Suehs*, Civil Action No. 3:93CV65, HHSC was required to procure the services of a vendor to conduct an independent, unbiased, statistically valid and timely study of Texas Medicaid Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) medical checkup completeness. The Medicaid EPSDT program in Texas is called Texas Health Steps (THSteps). The CAO set a benchmark of 80 percent for medical checkup completeness across all delivery models.

HHSC engaged TMF Health Quality Institute, in partnership with Buccaneer Computer Systems & Service, Inc. (Buccaneer) and Health Management Associates (HMA) to complete the study. The study required a review of medical records to assess the completeness to which the five federally mandated elements of a Texas Health Steps (THSteps) medical checkup had been performed. The class members included in the study were Medicaid clients from ages birth through 20 enrolled in a health maintenance organization (HMO), Primary Care Case Management (PCCM) or Fee-for-Service (FFS)

The medical checkup completeness study that TMF conducted was based on the requirements of the 2008 Texas Medicaid Provider Procedures Manual (manual). The study period was defined as the 2008 state fiscal year (SFY) in Texas, from September 1, 2007, through August 31, 2008.

The sample obtained to complete the study was drawn from paid claims and encounters for THSteps medical checkups that occurred in SFY 2008. TMF reviewers assessed medical checkup completeness in sampled records based on the procedures (referred to as "components" in this report) required by age appropriateness or other criteria as specified in the manual's periodicity schedule. TMF calculated rates of medical checkup completeness based on the reviewers' findings of appropriate documentation in the copies of medical records submitted by THSteps providers whose claims were selected for sampling.

In establishing the protocol and strategy for completing the study, TMF provided HHSC and the Plaintiffs' Counsel with the Sampling Plan, Draft Analysis Plan, Data Collection Instrument and Instructions for review, which were revised and finalized after receiving comments from both parties.

### **Assignment of Components in the THSteps Program to Five Federal Elements of EPSDT**

For the EPSDT program, federal statute 42 USC section 1905(r) defines the EPSDT program as providing five "screening services" (see federally mandated screening elements outlined in the Introduction and Glossary), as well as "dental services," "hearing services" and "vision services." At its discretion, each state determines what types of services will be included in a medical checkup and establishes the intervals of service, based on "reasonable standards of medical and dental practice."

In Texas, the requirements for completing the EPSDT screening services (the five federally mandated elements), and hearing, vision and dental services are established in the manual. Prior to this Medical Checkup Completeness Study, there was no official listing of the THSteps components that comprise the five federally mandated elements. In order to conduct the study, TMF prepared a "cross-walk" to assign components in the manual to one of the five federally mandated elements. Some of these



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components—including dental, hearing and vision screens, physical measurements (e.g., height, weight, body mass index (BMI) calculation, etc.), nutrition screening and blood pressure screening—were never assigned to one of the five federally mandated elements. Instead they were categorized into a separate category of Other THSteps.

ES Table 1, below, shows the assignment of all of the THSteps components required at the time of study to the five federally mandated elements and Other THSteps category that HHSC, the Texas Department of State Health Services and TMF agreed would be the basis for developing the analysis plan. These assignments became the structure for analyzing and reporting rates of medical checkup completeness.

**ES Table 1. Assignment of THSteps Medical Checkup Components to Federally Mandated Elements**

Federally Mandated Element of EPSDT Program	THSteps Components Assigned to a Federally Mandated Element
<b>(1) A comprehensive health and developmental history, including an assessment of both physical and mental health development</b>	Family History
	Neonatal History
	Physical History
	Mental Health History
	Developmental History Screen
	Developmental Screen
	Mental Health Screen
	Behavioral Risk Screen
<b>(2) A comprehensive unclothed physical exam</b>	Unclothed Physical Exam (age-appropriately draped)
	Ears, Eyes, Nose and Throat
	Pulmonary
	Cardiovascular System
	Gastrointestinal System
	Musculoskeletal
	Genitalia
	Head and Neck
	Skin
	Neurological
<b>(3) Immunizations appropriate for age and health history</b>	Immunization Status Current

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**ES Table 1. Assignment of THSteps Medical Checkup Components to Federally Mandated Elements, (continued)**

Federally Mandated Element of EPSDT Program	THSteps Components Assigned to a Federally Mandated Element
<b>(4) Laboratory tests appropriate to age and risk, including lead toxicity screening</b>	Lead Screening
	Lead Poison Blood Testing
	Hemoglobin or Hematocrit Testing
	Hemoglobin Type Documented
	2 <sup>nd</sup> Newborn Heredity Metabolic Testing
	TB Screen
	TB Skin Test
	Glucose Testing
	Hyperlipidemia Testing
	HIV Risk Assessment
	Pap Smear
	STD Screens
<b>(5) Health education, including anticipatory guidance</b>	Accident Prevention
	Disease Prevention
	Developmental
	Healthy Lifestyle
	Dental
	Other THSteps Components Not Assigned to a Federally Mandated Element
	Height
	Weight
	Length
	Body Mass Index
	Fronto-occipital Circumference
	Blood Pressure
	Vision Screen
	Hearing Screen
	Dental Screen
	Dental Referral
	Nutrition Screen

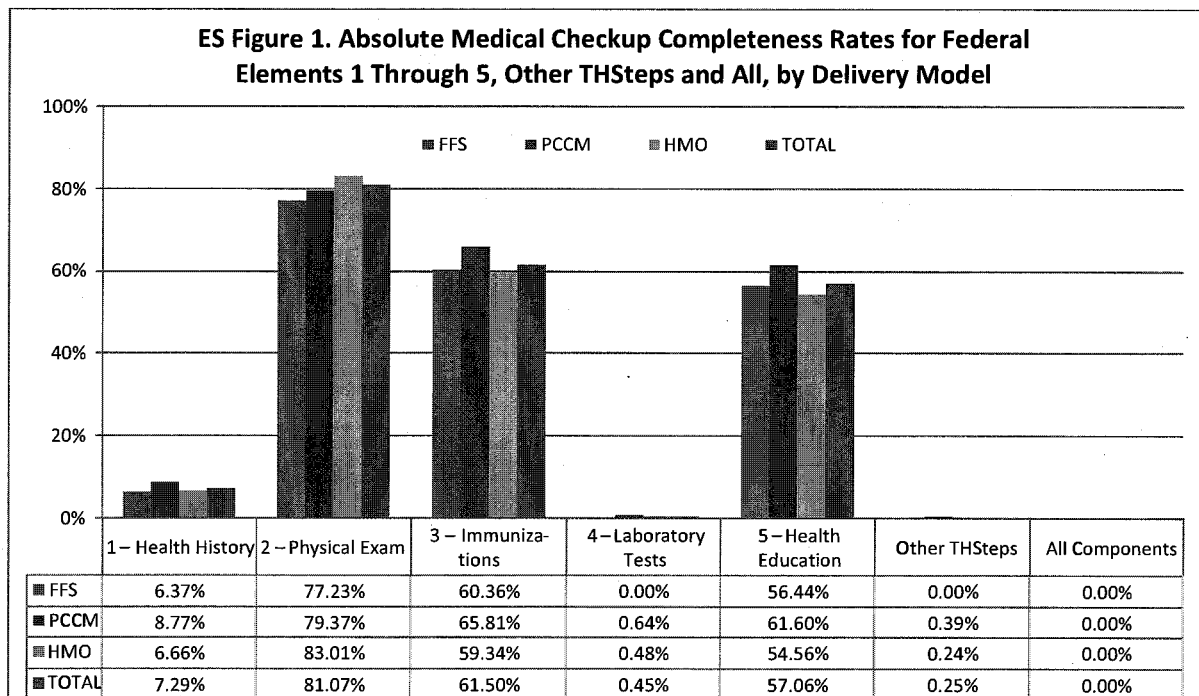
#### **Calculation of the Completeness Rate**

In order to provide a comprehensive picture of medical checkup completeness, the analysis for this study included examination of two types of medical checkup completeness rates: absolute completeness and average completeness.

***Absolute completeness rate***

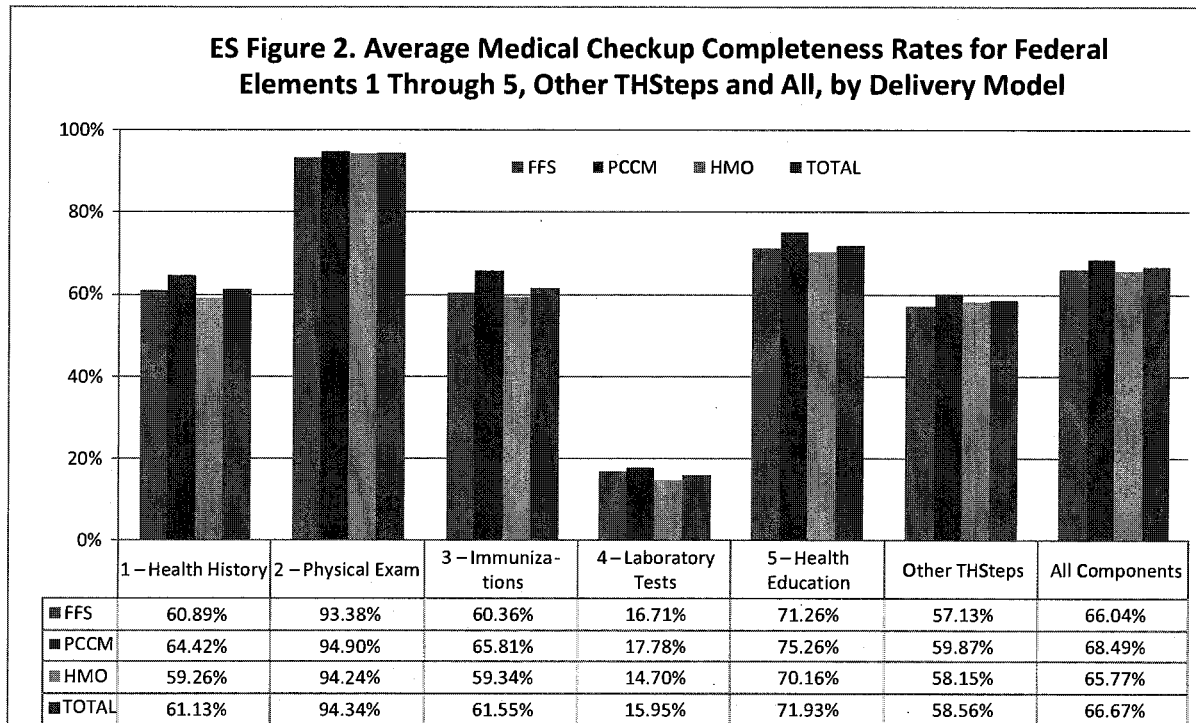
The **absolute completeness rate** is the percentage of records for which reviewers observed *100 percent* completeness of all required components of an element. For example, if there were 10 medical records each with eight age- and risk-appropriate components requiring completion, and only two of the 10 records had demonstrated completion of all eight components, the absolute completeness rate would be 20 percent.

ES Figure 1 shows the absolute completeness rate for each of the five federal elements, Other THSteps elements and the rate for all components combined. For each delivery model and statewide (total), the absolute completeness rate—that is, the percentage of medical checkups observed to have all required components completed—was zero percent, and thus less than the 80 percent benchmark established in the CAO. However, the HMO model did achieve this benchmark for Federal Element 2 – Comprehensive unclothed physical exam.

***Average completeness rate***

The **average completeness rate** is the percentage of completed components observed. For the same 10 medical records, each with eight age- and risk-appropriate components requiring completion, the average completeness rate is the sum of the observed number of completed components across the 10 medical records, divided by the total number of components expected to be completed, based on age and risk (10 x 8, or 80 items in this example). Thus, if the numerator totaled 50 completed components across the 10 records, the average completeness rate would be  $50 \div 80$ , which is 62.5 percent.

ES Figure 2 shows the average completeness rate for each of the five federally mandated elements, other THSteps elements and all components combined. All delivery models had an average completeness rate above 90 percent for Federal Element 2 — Comprehensive unclothed physical exam, well exceeding the 80 percent benchmark established in the CAO. For all components combined, however, the average completeness rate fell short of the 80 percent benchmark for each delivery model.



### Likely Reasons Behind Incomplete Medical Checkups

This study's objective was to determine the percentage of medical checkups in which all of the five federally mandated elements were fully documented and to assess likely reasons that elements were not completed. When the required components of a medical checkup were not present in the medical record documentation, there were essentially two reasons why this occurred: (1) The required care was not provided, or (2) the required care was provided but not adequately documented.

Providers may have not provided required care for a variety of reasons. The most common among these likely includes the following: lack of understanding of the THSteps program requirements; discomfort with some of the required components of care (e.g. testing for sexually transmitted diseases); and difficulty providing all the required components of a medical checkup in a single visit.

Similarly, there are multiple reasons why providers may not fully document care that was in fact provided. Reasons for lack of documentation when care was provided likely include the following:

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poorly designed forms that fail to offer necessary prompts or clear guidance; confusion about how to correctly document care; and difficulties capturing care provided outside of the provider's office (e.g. in a child care setting).

### **Policy Considerations and Recommendations**

Many of the factors contributing to low rates of completeness are amenable to policy or administrative interventions by the State of Texas. Given the systemic problems that appear to contribute to low rates of completeness, the state should build on its existing provider training efforts through more targeted outreach. Additionally, the state will need to provide strong leadership and secure broad commitment within the provider community to achieve measurable improvements. Successful strategies will require active participation of multiple stakeholders, including providers and provider organizations, HMOs and state staff from all areas involved in the THSteps program.

However it is important to note that the statewide totals for both absolute and average completion rates for physical exam exceeded the 80 percent benchmark referenced in the CAO. The activities that occur as part of a physical exam are the core of a pediatric practice and tend to be consistent regardless of whether a child is on Medicaid or has private/commercial coverage. Generally, the areas where rates of documentation were lowest were those that are specific to the broad coverage requirements that are contained in the EPSDT program (e.g. developmental screenings, etc.). This indicates that addressing the problems with documentation should be structured to ensure providers have a thorough knowledge of the requirement of the EPSDT program, particularly those parts of the program that are more comprehensive than what is generally provided in commercial coverage.

There are a number of strategies, many of which are interrelated, that Texas could pursue to address the reasons for completeness rates below the 80 percent target specified in the CAO. Many of these strategies are already in use in other states, giving Texas the benefit of either replicating or enhancing existing interventions. While these recommendations are presented as discreet strategies, achieving meaningful improvement will require a comprehensive approach.

- **Simplify documentation requirements while maintaining the integrity of the THSteps program.**
- **Improve the design and content of the sample medical checkup forms.**
- **Continue to increase and improve provider training opportunities.**
- **Ensure consistency across forms, and all relevant sections within the manual, including the periodicity schedule.**
- **Develop financial incentive programs, such as pay for performance.**

While this study indicates that Texas faces significant challenges in achieving completeness rates defined by the CAO, the state is not alone in this issue and has the opportunity to benefit from the experiences and strategies of other states. Proposed solutions should be evaluated according to their ability to ensure consistency across all sections of the manual and the sample forms; simplify requirements where

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possible; and provide strong provider outreach and education to explain and support the proposed changes.

## **About the Project**

As part of the Texas Health and Human Services Commission's (HHSC) compliance with the requirements of a Consent Decree dated February 1996 and a Checkups Corrective Action Order (CAO) dated September 5, 2007, in the class action lawsuit *Frew v. Suehs*, Civil Action No. 3:93CV65, HHSC was required to procure the services of a vendor to conduct an independent, unbiased, statistically valid and timely study of Texas Medicaid Early and Periodic Screening, Diagnosis and Treatment (EPSDT) medical checkup completeness.

HHSC engaged TMF Health Quality Institute, in partnership with Buccaneer Computer Systems & Service, Inc. (Buccaneer), and Health Management Associates (HMA) to complete the study. The study required a review of medical records to verify that the five federally mandated elements of a complete Texas Health Steps (THSteps) medical checkup had been performed. The class members included in the study were Medicaid clients from ages birth through 20 enrolled in Fee-for-Service (FFS) Medicaid or Medicaid managed care, including Health Maintenance Organizations (HMOs) and Primary Care Case Management (PCCM).

## **TMF Health Quality Institute**

TMF is a private, nonprofit consulting company focused on promoting quality health and health care through contracts with federal, state and local governments, as well as private organizations. Since its inception, TMF has been a leader in quality improvement and review services with demonstrated success in promoting quality and cost-effective health care. TMF has provided medical review services for more than 37 years and has reviewed over one million medical records since 1971. TMF is fully accredited by URAC for compliance with the Health Utilization Management and Independent Review Organization Accreditation Program.

## **Buccaneer Computer Systems and Service, Inc.**

Buccaneer is a leading, certified provider of information technology services to various government and commercial clients, including Defense Information Systems Agency, the United States Air Force and the Centers for Medicare & Medicaid Services (CMS). Buccaneer services include data center management, Independent Verification and Validation testing, systems administration, security assessments and documentation and network engineering. The Software Development and Informatics (SDI) division leading this project focuses on health quality management systems development, informatics, analytics and clinical performance measurement. The Buccaneer SDI group is a team of Medicare- and Medicaid-experienced individuals that includes clinical business analysts, data analysts, software engineers, database architects, statisticians, PhD-level health researchers, informatics experts and clinicians.

## **Health Management Associates**

Health Management Associates (HMA) is a consulting firm specializing in the fields of health system restructuring, health care program development, health economics and finance, program evaluation and data analysis. HMA is widely regarded as a leader in providing technical and analytical services to health

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care purchasers, payers and providers, with a special concentration on those who address the needs of the medically indigent and underserved. Staff backgrounds include health economics, public health policy and administration, health care finance and reimbursement, clinical services, managed care, pharmacy benefit design and management, social work and program development and evaluation.



## Introduction

As part of the Texas Health and Human Services Commission's (HHSC) compliance with the requirements of a Consent Decree dated February 1996 and a Checkups Corrective Action Order (CAO) dated September 5, 2007, in the class action lawsuit *Frew v. Suehs*, Civil Action No. 3:93CV65, HHSC was required to procure the services of a vendor to conduct an independent, unbiased, statistically valid and timely study of Texas Medicaid Early and Periodic Screening, Diagnosis and Treatment (EPSDT) medical checkup completeness. The Medicaid EPSDT program in Texas is called Texas Health Steps (THSteps).

The medical checkup completeness study that TMF conducted was based on the requirements of the 2008 Texas Medicaid Provider Procedures Manual (manual), including the THSteps Medical Checkups Periodicity Schedule for Infants, Children and Adolescents (Birth Through 20 Years of Age) (periodicity schedule) in effect during the study period. The study period was defined as the 2008 state fiscal year (SFY) in Texas, from September 1, 2007, through August 31, 2008.

The sample obtained to complete the study was drawn from paid claims and encounters for THSteps medical checkups that occurred in SFY 2008. TMF reviewers assessed medical checkup completeness in sampled records based on the procedures (referred to as "components" in this report) required by age appropriateness or other criteria as specified in the manual, including the periodicity schedule. TMF calculated rates of medical checkup completeness based on the reviewers' findings of appropriate documentation in the copies of medical records submitted by THSteps providers whose claims were selected for sampling.

The objectives of this study were to:

1. Determine the percentage of medical checkups in which all of the five federally mandated elements set forth in 42 U.S.C. 1396d(4)(1)(B)(i)-(v) ("elements") are fully documented. The five elements are the following:
  - a. A comprehensive health and developmental history, including an assessment of both physical and mental health development
  - b. A comprehensive unclothed physical examination
  - c. Immunizations appropriate for age and health history
  - d. Laboratory tests appropriate to age and risk, including lead toxicity screening
  - e. Health education, including anticipatory guidance
2. Determine for medical checkups lacking full documentation of one or more of these five elements which of these elements were most commonly missed or not documented.
3. Assess reasons that medical checkup elements were most commonly missed or not documented.
4. Provide statistically valid comparisons between the major Medicaid delivery models: managed care Health Maintenance Organizations, Primary Care Case Management and Fee-for-Service.

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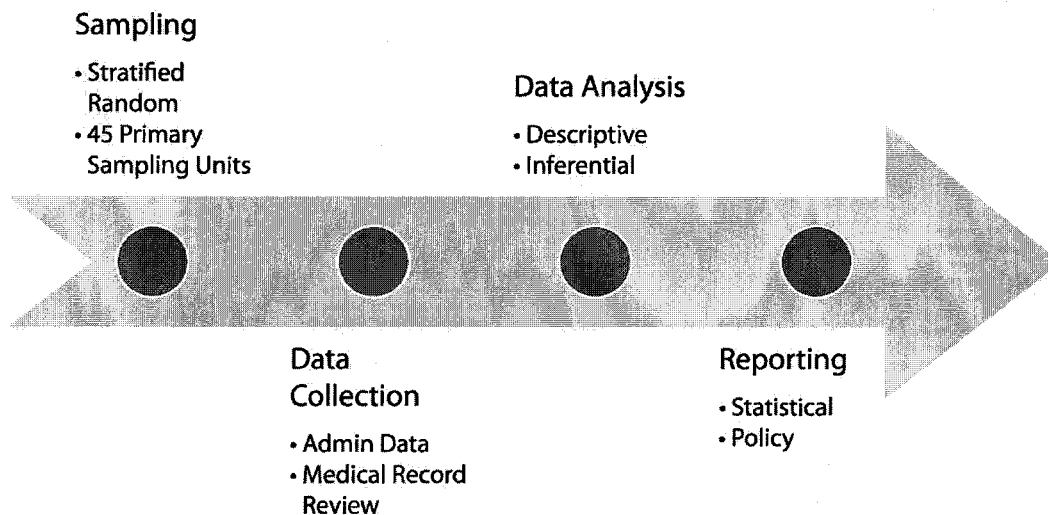
In establishing the protocol and strategy for completing the study, TMF provided HHSC and the Plaintiffs' Counsel with the Sampling Plan, Draft Analysis Plan, Data Collection Instrument and Instructions for review, which were revised and finalized after receiving comments from both parties.

## Study Methodology

The study was conducted as a retrospective cohort design. That is, eligible subjects, or children who received THSteps medical checkups, were identified retrospectively—after the period of study ended.

The methodology comprised four key components: sampling, data collection, data analysis and reporting, as illustrated in Figure 1 and described below.

**Figure 1. Components of Study Methodology**



## Sampling

### Identification of the Population

The target population, or universe, consisted of paid Fee-for-Service (FFS) and Primary Care Case Management (PCCM) claims and Health Maintenance Organization (HMO) encounters for a Texas Health Steps (THSteps) medical checkup for children enrolled in the Texas Medicaid program. The sampling was drawn from claims and encounters for medical checkups that occurred in state fiscal year (SFY) 2008 (September 1, 2007, through August 31, 2008).

The following procedure codes for THSteps medical checkups were selected for inclusion in the sampling frame: 99381 through 99385 and 99391 through 99395. Claims and encounters for initial hospital/birth center newborn assessments (procedure codes 99460 through 99465) were not included in the sampling frame. THSteps medical checkups performed in the hospital for newborns were also excluded from the sampling frame. There were two primary reasons for the exclusion of newborns in this study.

1. At the time of birth, not all children are automatically enrolled in Medicaid managed care. Hence, these cases did not fit into the sampling specifications given in the state's Request for

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Proposal or the Corrective Action Order (CAO), since it would be extremely difficult or impossible to assign a newborn encounter to a Primary Sampling Unit (PSU).

2. According to the manual, the Texas Health and Human Services Commission (HHSC) policy does not require a medical checkup be performed by a THSteps provider. If newborns do not already have a selected provider, the hospital assigns a staff physician to conduct the newborn checkup and then the hospital bills for this service. Therefore, the primary care provider (PCP) may or may not have access to the medical record and may not have provided the service.

It is important to note that TMF did not exclude from the sampling frame any THSteps medical checkups for newborns performed *outside* the hospital. If the child was under the age of two weeks at the time of the medical checkup, these claims or encounters were included in the sampling frame. The number of medical checkup claims or encounters for newborns included in the sampling frame was 92,065.

Denied claims were excluded from the sampling frame. However, THSteps medical checkups filed as an exception to the periodicity schedule were included in the population.

#### **Primary Sampling Units (PSU)**

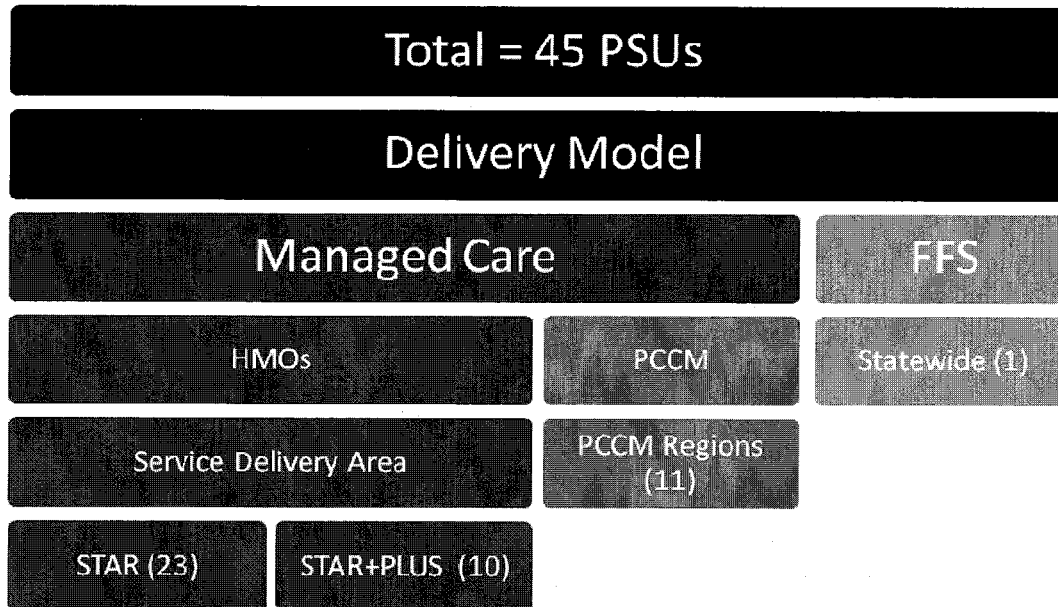
The sampling universe was stratified into distinct elements, or units, for sampling purposes. Every plan, or plan within a service delivery area (SDA), represents a primary sampling unit (PSU). If HMOs were present in a Health and Human Services region, the PSU was defined as the unique SDA and delivery model combination, which includes specific HMO samples.<sup>1</sup>

For the PCCM program, the PSUs correspond to the PCCM regions. For the FFS population, there is one statewide sampling unit. There were a total of 45 PSUs for this study. Figure 2 illustrates the number of sampling units for each type of delivery model.

The STAR Health program for foster children was not included as a PSU since it began in April 2008 and did not have a full year of claims history available for sampling purposes. Similarly, two Integrated Care Management (ICM) plans (in the Dallas and Tarrant regions) were excluded because the ICM program, which terminated in May 2009, did not take effect until February 2008.

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**Figure 2. Primary Sampling Units (PSUs) by Delivery Model**



Note: For a detailed listing of the sampling units, refer to Attachment A.

### **Drawing the Sample**

The primary objective of the study was to examine THSteps medical checkup completeness by delivery system model and, where possible, compare completeness rates among PSUs within a delivery model. The CAO set a benchmark of 80 percent for medical checkup completeness in any plan, PCCM region or FFS. To draw a statistically valid sample appropriate for these comparisons, TMF used a modified proportional sampling strategy to account for the variation in PSU population size for each of the 45 PSUs. This methodology reduces the margin of error within PSUs compared to a uniform sampling strategy.

### **PSU Sample Sizes**

The desired sample size for each PSU was ascertained by first dividing the number of children receiving at least one THSteps medical checkup in each plan by the universe of children in Texas Medicaid receiving THSteps medical checkups, in order to calculate the sampling fraction of each PSU. Next, each PSU sampling fraction was multiplied by the overall statewide sample size to obtain the target sample size of each PSU.

Because the THSteps program requires a different number of medical checkups per year, based on age, TMF applied additional stratification within each PSU for three different age groupings: infants, toddlers and children. Infants, from approximately 2 weeks to 12 months old, should have six THSteps medical checkups in the first year of life. Toddlers, from 13 months to 2 years of age, should have three THSteps medical checkups in the second year of life. The remainder of children, ages 3 through 20, should have one THSteps medical checkup per year.

From each age strata within each of the 45 PSUs, TMF drew a simple random sample of paid claims/encounters for THSteps medical checkups that occurred in SFY 2008. This methodology allowed each medical checkup within an age stratum to have an equal probability of selection. Using proportionate sampling of PSUs also simplified computation of delivery model estimates of medical checkup completeness. The age stratification of patients within a PSU prevented over-weighting medical checkups in infancy and early childhood, when medical checkups are more frequent and more likely to have occurred compared to adolescents.<sup>2</sup>

The number of children receiving at least one THSteps medical checkup during the study period was 1,483,039, and the number of paid THSteps medical checkups was 2,123,397, as shown in Table 1, below.

**Table 1. THSteps Medical Checkup Sampling Universe by Delivery Model, State Fiscal Year 2008**

Delivery Model	No. PSUs	Population	
		No. Children with one or more THSteps medical checkups*	No. THSteps medical checkups†
STAR Plans	23	775,644	1,156,108
STAR+PLUS Plans	10	3,331	3,796
PCCM Regions	11	451,544	677,911
Fee-for-Service	1	252,520	285,582
<b>Total Texas Medicaid</b>	<b>45</b>	<b>1,483,039</b>	<b>2,123,397</b>

\* The number of children is unduplicated within a plan and age stratum, or if he/she changed plans within the study period, the child may be represented more than once in the population.

† A visit is defined as a unique combination of the claim number, Medicaid primary identification number, "from" claim date of service, billing provider and/or submitting provider.

### Modifications to Intended Sample Sizes

To make comparisons between delivery models, the number of medical records to be abstracted was originally set at approximately 7,000. After calculating the intended proportional sample sizes, many PSUs had too few paid medical checkup claims or encounters from which to draw a sample that would allow sufficient confidence in estimating medical checkup completeness rates. This occurred for 10 STAR plans, all 10 STAR+PLUS plans and three PCCM regions. As a result, TMF modified the proportional sampling strategy to include a lower bound for a minimum sample size limit for the PSUs. This strategy also required the addition of an upper sample size limit.

A lower bound of 100 visit records was established, and an upper bound of 250 records was established for all PSUs, except for two extremely large PSUs: statewide Fee-for-Service (PSU-45) and the Lower South Texas PCCM (PSU-44), which together comprised 30 percent of the entire sampling universe. For these two PSU outliers, TMF set an upper limit at 475 abstracted visits. The proportionality of sampling by age groups within the PSU, however, was retained.

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### Estimation Considerations

Some PSUs had a very small population of THSteps medical checkup claims/encounters from which to draw a sample. For five of the 10 STAR+PLUS plans, TMF was unable to select enough records to reach the minimum threshold of 100 visits. For these PSUs, TMF requested *all* eligible records.

To ensure the selected samples were representative of the population of visits in terms of race and gender, for each PSU, TMF compared the distribution of the sampled race categories to the population race categories. See Attachment B (Table 2) for details on the racial distribution of the population and the sampled records of THSteps medical checkups for each delivery model.

### Response Rates

The total, statewide response sample size was 6,906 valid medical records from a sample of 8,433 medical checkups, with a response rate of 82 percent. There were two additional sampling requests made to reach desired response rates within each PSU. After all records were received and validated, there were 16 PSUs with a response sample size under 100 medical records. Nine of the 16 PSUs had a response sample size over 90 medical records. A detailed response rate by PSU is included in Attachment C. Table 2, below, gives the final response sample sizes and response rates for key sample characteristics.

**Table 2. Sample Sizes and Response Rates by Delivery Model, Age Group and Race/Ethnicity**

Sample Characteristic	Response Sample Size	Response Rate
<b>Service Model</b>		
HMO	4,391	79.10%
PCCM	2,035	87.90%
FFS	480	87.90%
<b>Age Group</b>		
Infant	1,713	81.11%
Toddler	1,504	82.01%
Children	3,689	82.22%
<b>Race/Ethnicity</b>		
American Indian or Alaska Native	24	88.89%
Asian	91	85.85%
Black or African American	936	80.21%
Hispanic	4,437	82.66%
Unknown	197	72.16%
White	1,221	81.84%

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## **Data Collection**

### **Administrative Data Sources**

The primary data sources for the analyses were administrative data, via paid THSteps medical checkup claims, THSteps medical checkup encounters from the Texas Medicaid & Healthcare Partnership (TMHP) warehouse and copies of medical records that providers sent to TMF. Administrative data were used to determine the location of services and to request medical records for the study period.

### **Medical Records Requests**

TMF sent letters to providers to request medical records of patients whose THSteps medical checkup claim or encounter was selected for inclusion in the sample. Providers received the following items:

- Initial letter requesting selected Medicaid medical records
- Medicaid medical record/component cover sheet for each record selected
- Instructions for completing the Medicaid medical record/component cover sheet
- Documents required in the medical record to send to TMF
- Return mailing labels

To encourage provider participation, Request for Medicaid Records letters on HHSC letterhead and signed by Charles E. Bell, MD, Deputy Executive Commissioner, Health Services, were sent to providers to emphasize the importance of the study and to encourage participation in providing records selected for sampling according to established timelines (see Attachment D). The letter included a list of requested medical records and a component sheet providing a checklist and detailed instructions regarding documentation needed to support the THSteps Medical Checkup Completeness Study (see Attachment E). The checklist required providers to sign and verify that they submitted all necessary information.

The medical records request letter asked providers to submit the full medical record up to and including the identified date of service within 30 calendar days. A contact person at TMF was identified in the letter for providers to contact if they had any questions. The request letter also provided a cover sheet (with instructions) for providers to return with the records submitted to facilitate their tracking and disposition (see Attachment F). The cover sheet contained a space for providers to record the number of pages and postage, which was entered in the database for generating reimbursement to providers for photocopying and mailing expenses. No reimbursement was provided for faxed records. A contact person for the provider was also requested to facilitate follow-up if needed.

Two separate reminder letters were mailed subsequently to providers who did not respond to the original request (see Attachment G). TMF followed up with phone calls to providers who did not respond to the original request or subsequent letters. In addition, HHSC sent an e-mail to stakeholders to notify them about the study and request their assistance in providing information to providers selected for participation in the study (see Attachment H).



**Validation of Provider Responses to Medical Records Requests**

Upon receipt, reviewers examined each cover sheet to assess eligibility of a sampled medical checkup for which copies of medical records were requested. Several reasons could disqualify a sampled medical checkup from the study. This occurred when the provider indicated on the cover sheet that: the enrollee is not a patient in his/her practice; the enrollee is a patient but had no medical checkup during the study period; or the enrollee is a patient but the medical chart cannot be located (see Attachment F).

For medical checkups not disqualified for one of these reasons, reviewers examined the medical records submitted to verify that a medical checkup occurred on the date of service indicated in the administrative data used to draw the sample. This verification, through evidence in the submitted medical records, was required to accept the medical record as a valid response. If, for example, reviewers observed that a medical record indicated that only a sick child visit occurred, and not a medical checkup, on the date of service in question, the medical record was treated as an invalid response and excluded from the analysis. There were 54 such cases excluded from the analysis.

If a cover sheet was returned indicating that a medical checkup took place but there was not any or sufficient documentation submitted for a reviewer to determine a valid response, reviewers called the provider to seek clarification until an assessment of validation could be made.

From a total of 8,433 requests for medical records, 1,527 responses (18.1 percent) were determined to be invalid (see Attachment C).

To alert HHSC early in the process about any concerns related to provider compliance with TMF's request for medical records, system-generated management reports were produced on a weekly basis and shared with the analytical staff to monitor the status of medical records received.

**Medical Records Review**

TMF reviewers who examined medical records were registered nurses or masters-prepared health information professionals. Reviewers used a computerized data collection instrument (and instructions) to abstract data from the 6,906 valid medical records included in the study (see Attachment I). Reviewers first selected the age classification from the periodicity schedule that applied to each medical checkup so that the data collection tool would prompt the reviewer to assess completeness only for the age-appropriate components of the THSteps program. Once determined that a medical record was valid for abstraction, reviewers proceeded with the review by examining all written documentation available—whether a THSteps form, customized form, copy of an electronic record, growth chart, immunization record, questionnaire, progress notes or other type of documentation—to determine completeness of each age- or risk-appropriate component.

As a part of the data collection tool, an electronic database was created to store identifying information such as member Medicaid ID number, member name and member birth date, as well as provider name and all information determined during the record review. This database was designed to lessen the amount of data entry for the reviewers and facilitate medical record tracking.

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**Assignment of Components in the THSteps Program to Five Federal Elements of EPSDT**

As with many aspects of the Medicaid program, the federal government sets broad policy and gives states considerable latitude to design and implement policy for their EPSDT program. Federal regulations 42 U.S.C. 1396d(4)(1)-(4) define the EPSDT program as providing five “screening services” (see five federally mandated elements outlined in the Introduction and Glossary), as well as “dental services,” “hearing services” and “vision services.” At its discretion, each state determines what types of services will be included in a medical checkup and establishes the intervals of service, based on “reasonable standards of medical and dental practice.”

In Texas, the fulfillment of the five EPSDT screening (five federally mandated elements), hearing, vision and dental services are established in the Texas Medicaid Provider Procedures manual. Prior to this Medical Checkup Completeness Study, there was no official listing of the THSteps components that comprise the five federally mandated elements. In order to conduct the study, TMF prepared a “cross-walk” to assign components in the manual to one of the five federal elements. Some of these components—including dental, hearing and vision screens, physical measurements (e.g., height, weight, BMI calculation, etc.), nutrition screening and blood pressure screening—were never assigned to one of the five federal elements. Instead they were grouped into a separate category of Other THSteps.

Table 3 shows the assignment of all of the THSteps components required at the time of study to the five federally mandated elements and Other THSteps category that HHSC, the Texas Department of State Health Services and TMF agreed would be the basis for developing the analysis plan. These assignments became the structure for analyzing and reporting rates of medical checkup completeness.

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**Table 3. Assignment of THSteps Medical Checkup Components to Federally Mandated Elements**

Federally Mandated Element of EPSDT Program	THSteps Components Assigned to a Federally Mandated Element
<b>(1) A comprehensive health and developmental history, including an assessment of both physical and mental health development</b>	Family History
	Neonatal History
	Physical History
	Mental Health History
	Developmental History Screen
	Developmental Screen
	Mental Health Screen
	Behavioral Risk Screen
<b>(2) A comprehensive unclothed physical exam</b>	Unclothed Physical Exam (age-appropriately draped)
	Ears, Eyes, Nose and Throat
	Pulmonary
	Cardiovascular System
	Gastrointestinal System
	Musculoskeletal
	Genitalia
	Head and Neck
	Skin
<b>(3) Immunizations appropriate for age and health history</b>	Immunization Status Current
<b>(4) Laboratory tests appropriate to age and risk, including lead toxicity screening</b>	Lead Screening
	Lead Poison Blood Testing
	Hemoglobin or Hematocrit Testing
	Hemoglobin Type Documented
	2 <sup>nd</sup> Newborn Heredity Metabolic Testing
	TB Screen
	TB Skin Test
	Glucose Testing
	Hyperlipidemia Testing
	HIV Risk Assessment
	Pap Smear
	STD Screens
<b>(5) Health education, including anticipatory guidance</b>	Accident Prevention
	Disease Prevention
	Developmental
	Healthy Lifestyle
	Dental

**Table 3. Assignment of THSteps Medical Checkup Components to Federally Mandated Elements  
(continued)**

Federally Mandated Element of EPSDT Program, cont.	Other THSteps Components Not Assigned to a Federally Mandated Element
	Height
	Weight
	Length
	Body Mass Index
	Fronto-occipital Circumference
	Blood Pressure
	Vision Screen
	Hearing Screen
	Dental Screen
	Dental Referral
	Nutrition Screen

Because of inconsistent labels and terms across the manual, including the periodicity schedule, questions in the data collection instrument reviewers used to abstract the medical records were also cross-walked with the components of the periodicity schedule to ensure that reviewers would abstract the medical records for all required and age-appropriate components of the THSteps program (see Attachment J).

### Assessment of Completeness

As detailed in the Final Analysis Plan (see Attachment K), in order for reviewers to determine that an age- and risk-appropriate component of a THSteps medical checkup was completed, the provider must have indicated in the medical record that the required component was either completed—and documented in a manner consistent with requirements in the manual, including the periodicity schedule—or that the patient/parent refused. Either indication would demonstrate completion of that component. If a patient was uncooperative, ill or left prior to completion of a particular component and the reviewer found documentation of this outcome (which included notation that the patient/parent was counseled on the need for the follow-up visit), the component would be counted as complete.

## Data Analysis

### Descriptive

Descriptive statistics were tabulated to describe the demographic and enrollment characteristics of the study population and the selected sample. These statistics were computed statewide by delivery area and by delivery model. Descriptive statistics were also tabulated from medical record data to determine THSteps documentation compliance. The documentation compliance statistics were computed statewide and also segmented by delivery area, delivery model and patient demographics, such as age

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group and race/ethnicity, as well as the type of forms providers used to document medical checkup visits.

### **Inferential**

Statistical tests were run to evaluate differences in performance between delivery models, between age groups and by race/ethnicity. TMF did not have sufficient statistical power to detect differences between PSUs in the HMO delivery model but tested for difference between PCCM regions. Statistical significance between delivery models and between age groups was evaluated using multiple t-tests. Using a family-wise level of significance of  $\alpha = .05$ , individual tests were considered significant with  $p \leq .002$  (using a Bonferroni adjustment).<sup>3</sup> For race/ethnicity and PCCM regions, an analysis of variance (ANOVA) was used to test for statistical differences among three or more means (also using a Bonferroni adjustment).

### **Statistical Weighting of Results**

The use of stratified sampling strategy and an upper and lower limit for PSU-level sample sizes required us to weight the observed results within each PSU so that documentation completion rates more accurately reflected the predicted population rate—based on the sample size used and the population size. Since the sampling plan was specific to age classification within the PSU, all data displays for rates specific to age, PSU and delivery model have weights applied. Computation of compliance rates by race/ethnicity or type of form providers submitted do not have weights applied since the sampling design was not specific to those population characteristics.

### **Quality Assurance**

A detailed analysis plan with coding to identify variable names, numerator definitions, denominator definitions and exclusion criteria for each calculated measure was created to code the analysis using SAS software. Both the detailed analysis plan and the SAS code underwent an independent quality check to ensure all measures were calculated correctly.

Since the periodicity schedule was the guide TMF reviewers used to determine what components were required at various ages, data analysis cross-tabs were run to compare the member's age to the selected periodicity schedule age to identify data anomalies. Edits were also programmed to allow only valid values to be entered into the database. Inter-rater reliability (IRR) testing was conducted on the tool during the initial phases of data collection to ensure the accuracy and consistency of the reviewers. The IRR process was repeated approximately halfway into the process and no remedial actions were needed.

## **Study Findings and Analysis**

### **Overview**

The scope of work required the study team to determine the percentage of checkups in which all five federally mandated elements had complete documentation of each of the components that comprise the element. As illustrated in Table 3 of the Study Methodology, 36 age- or risk-appropriate components

of the Texas Health Steps (THSteps) program were assigned to one of the five federal elements in order to conduct the study.

The number of components comprising each federal element is as follows:

1. A comprehensive health and developmental history, including an assessment of both physical and mental health development (8)
2. A comprehensive unclothed physical examination (10)
3. Immunizations appropriate for age and health history (1)
4. Laboratory tests appropriate to age and risk, including lead toxicity screening (12)
5. Health education, including anticipatory guidance (5)

Including the 11 Other THSteps components in the periodicity schedule and other sections of the manual that were not assigned to one of the five federally mandated elements, a total of 47 components was included in the analysis.

The completeness of any particular medical checkup was based on the components required for the age of that child and risk factors identified. For example, a 2-year-old medical checkup requires a developmental screening, but that is not a requirement for a 13-year-old checkup. As also noted in the Study Methodology, reviewers considered all documentation included in each medical record submitted by providers to assess completion of age- and risk-appropriate components. Although THSteps forms are available to providers, the use of the forms in conducting a medical checkup is optional.

The analysis included examination of two types of medical checkup completion rates:

a. Absolute completeness rate

The **absolute completeness rate** is the percentage of records for which reviewers observed *100 percent* completeness of all required components of an element. For example, if there were 10 medical records, each with eight age- and risk-appropriate components requiring completion, and only two of the 10 records had demonstrated completion of all eight components, the absolute completeness rate would be 20 percent. This rate was used to examine completion by delivery model for each federally mandated element, for all federally mandated elements combined, for Other THSteps, and all five federally mandated elements and Other THSteps combined. We ran statistical tests to compare the absolute completeness rates between Medicaid delivery models: Health Maintenance Organization (HMO) v. Primary Care Case Management (PCCM); HMO v. Fee-for-Service (FFS); and FFS v. PCCM.

b. Average completeness rate

The **average completeness rate** is the percentage of completed components observed. For the same 10 medical records, each with eight age- and risk-appropriate components requiring completion, the average completeness rate is the sum of the observed number of completed components across the 10 medical records, divided by the total number of components expected to be completed based on age and risk (10 x 8, or 80 items in this example). Thus, if the numerator totaled 50 completed components across the 10 records, the average completeness rate would be  $50 \div 80$ , which is 62.5 percent.

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TMF examined average completeness rates for each of the five federally mandated elements and Other THSteps by delivery model, individual PSU, age group, race/ethnicity and type of forms providers submitted. Finally, TMF examined the average completeness rates for the individual components that comprise each of the five federally mandated elements and Other THSteps to assess which items were most commonly missed or not documented.

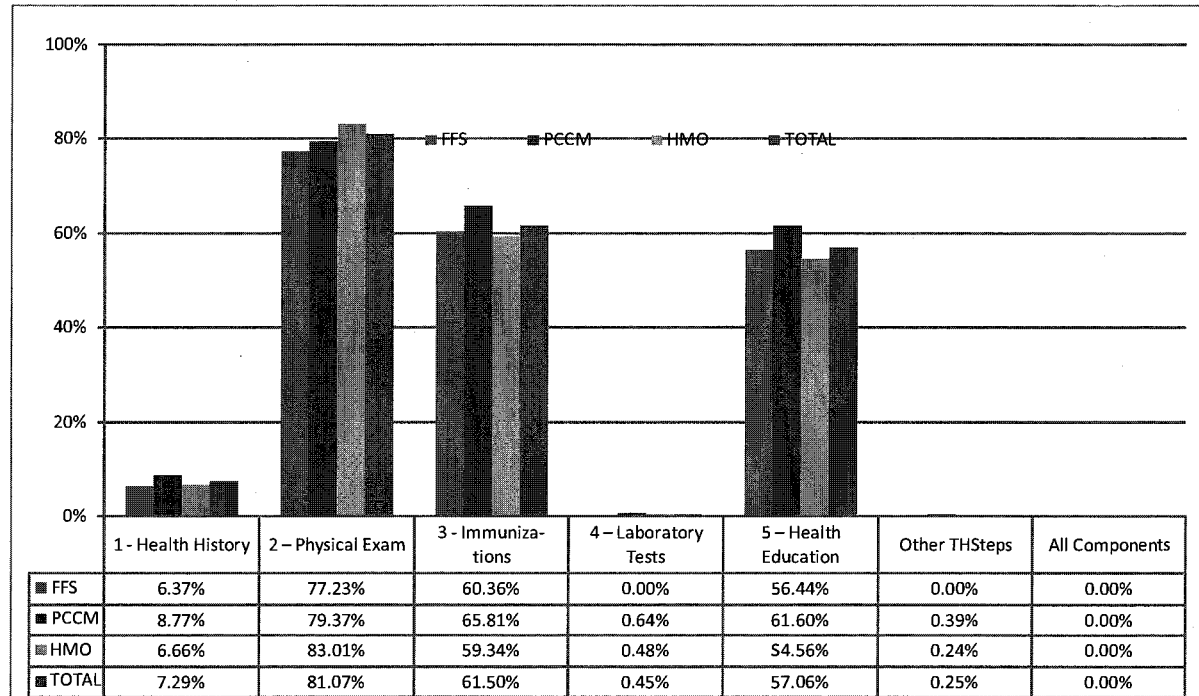
### **Absolute Completeness Rates by Delivery Model**

A THSteps medical checkup with 100 percent of all age- and risk-appropriate components completed, as determined by the medical record review, was considered absolutely complete. For each delivery model and statewide, the absolute completeness rate—that is, the percentage of medical checkups observed to have all required components completed—was zero percent (see Figure 3a).

The analysis showed that none of the 45 primary sampling units (PSUs) achieved absolute completeness—based on age- and risk-appropriateness—across the five federally mandated elements and Other THSteps components for any sampled medical records.

*None of the delivery models achieved an absolute completeness rate above zero percent.*

Absolute completeness rates for Federal Element 4 – Laboratory Tests were less than one percent for each delivery model. Absolute completeness for Other THSteps was also observed at a rate of less than one percent for each delivery model.

**Figure 3a. Absolute Medical Checkup Completeness Rates for Federal Elements 1 Through 5, Other THSteps and All, by Delivery Model**

For Federal Element 1 – Comprehensive Health and Developmental History, the statewide (total) absolute completeness rate was 7.3 percent. The PCCM model had the highest absolute completeness rate (8.8 percent), followed by HMO (6.7 percent) and FFS (6.4 percent). Only the difference in rates between the PCCM and HMO models was statistically significant.

Only Federal Element 2 – Comprehensive Unclothed Physical Examination achieved at least an 80 percent absolute completeness rate. For the HMO model, the rate was 83 percent, followed by PCCM (79 percent) and FFS (77 percent). The total, statewide absolute completeness rate was 81 percent. The differences in rates between the delivery models for Federal Element 2 were statistically significant for the HMO model vs. FFS and for the HMO vs. PCCM models.

*Only one federal element, the Comprehensive Physical Exam, achieved an absolute completeness rate above 80 percent.*

Federal Element 3 – Immunizations included only one component. The PCCM model achieved the highest rate of absolute completeness for immunizations (66 percent). The differences in rates between the PCCM model compared to the FFS model (60 percent) and compared to the HMO model (59 percent) were



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statistically significant. The total, statewide absolute completeness rate was 62 percent. Differences in rates between the FFS and PCCM models and between the HMO and PCCM models were statistically significant.

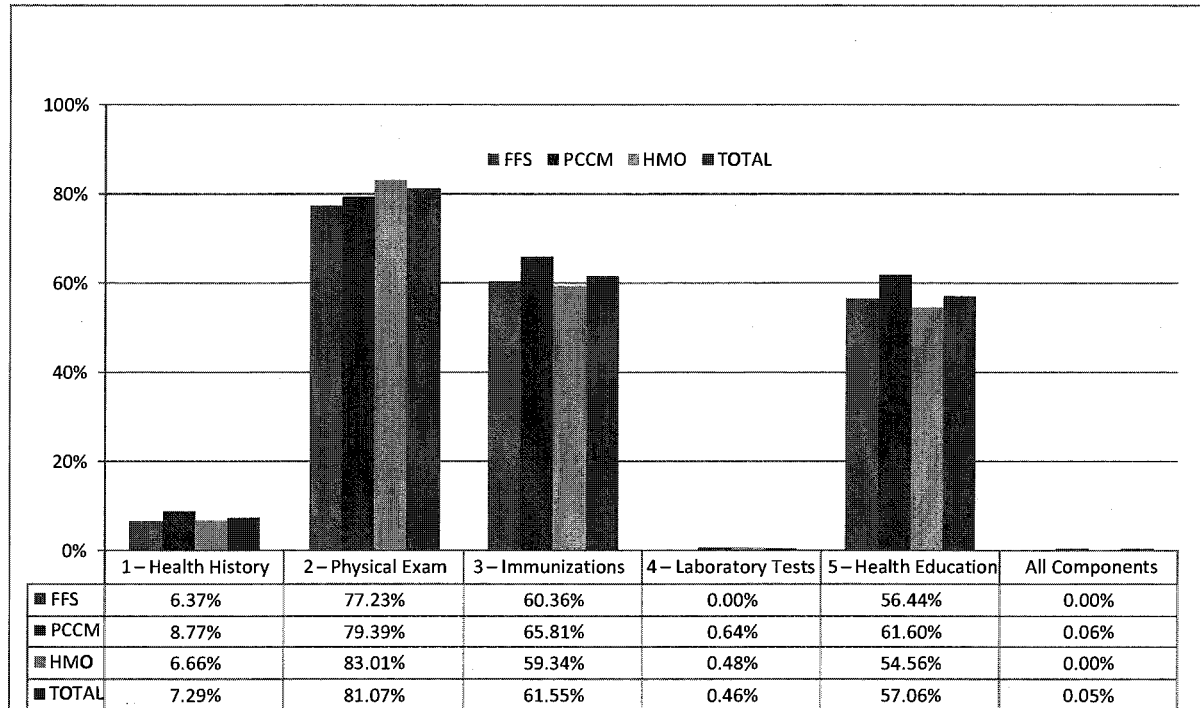
For Federal Element 5 – Health Education, with Anticipatory Guidance, providers must complete a face-to-face discussion on five topics—accident prevention, disease prevention, healthy lifestyle, dental care and developmental milestones—as appropriate for the patient’s age. TMF analyzed Federal Element 5 using criteria that all five components must be completed, based on understanding of the manual’s instructions to providers. For 57 percent of medical checkups, all components of Federal Element 5 were completed. The PCCM model achieved the highest rate, at 62 percent, while the HMO model had the lowest rate, at 55 percent.

**Absolute Completeness Rates Excluding Other THSteps from Analysis**

TMF also analyzed completion rates for the five federally mandated elements, as defined for this study, excluding the Other THSteps. This did not change the end results. The absolute medical checkup completeness rate for all components across the five federally mandated elements is zero percent (see Figure 3b).

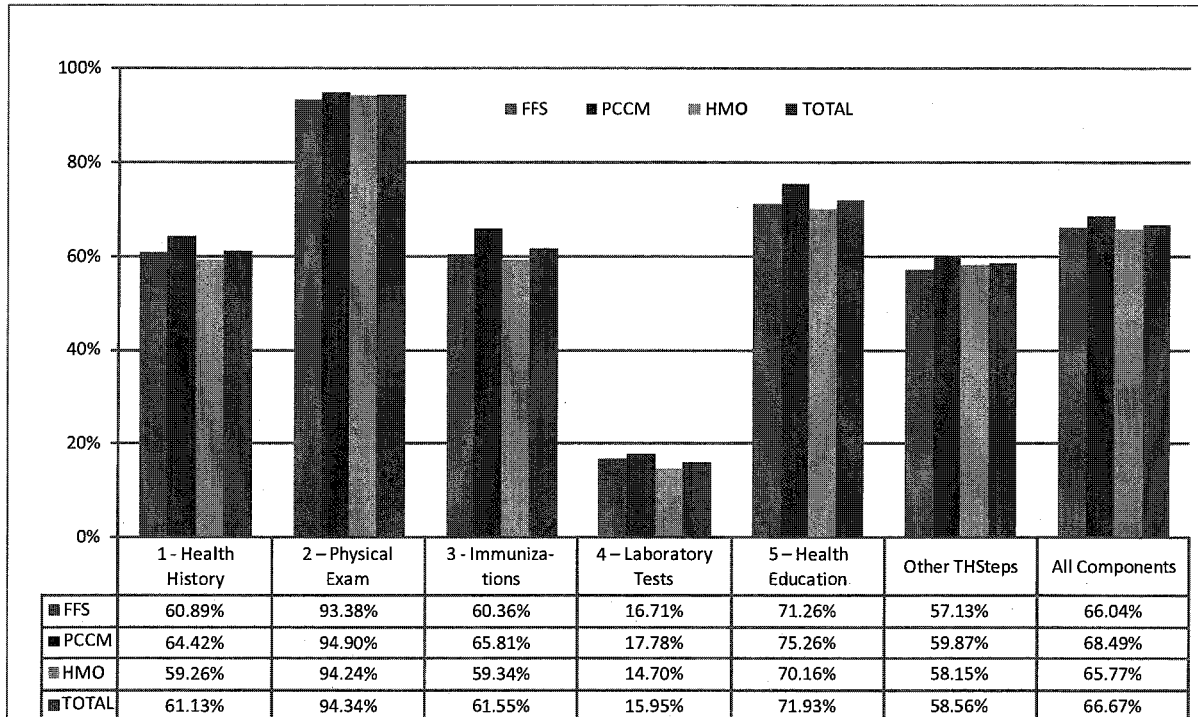
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**Figure 3b. Absolute Completeness Rates for Federally Mandated Elements 1 Through 5 and All, by Delivery Model**



### Average Completeness Rates by Delivery Model

To provide a more comprehensive picture of medical checkup completeness TMF also examined average completeness rates. The average completeness rate for each federal element was calculated as the number of completed components observed in the sample of medical records reviewed divided by the total number of age- and risk-appropriate components expected to be completed for that element. Statewide for Federal Element 1, for example, fewer than five of eight components (61 percent) were completed on average (see Figure 4a). The average completeness rate was highest for the PCCM model (64 percent), which was significantly higher than the HMO rate (59 percent) but not significantly different from the FFS rate (61 percent).

**Figure 4a. Average Medical Checkup Completeness Rates for Federal Elements 1 Through 5, Other THSteps and All, by Delivery Model**

Average completeness rates were highest for Federal Element 2 – Unclothed, Comprehensive Physical Exam. For the statewide total, 94 percent of components were completed, on average. Differences in rates by delivery model were not statistically significant.

Because Federal Element 3 – Immunizations had only one component, the average completeness rate is the same as the absolute completeness rate.

On average, 16 percent of the components for Federal Element 4 – Laboratory were complete, ranging from a rate of 15 percent for the HMO model and 18 percent for the PCCM model. The difference in rates between these two models was statistically significant.

On Federal Element 5 – Health Education, the average completion rate, statewide, was 72 percent. The rate was highest for the PCCM model (75 percent). The difference in rates between the PCCM and HMO models (70 percent) was statistically significant.

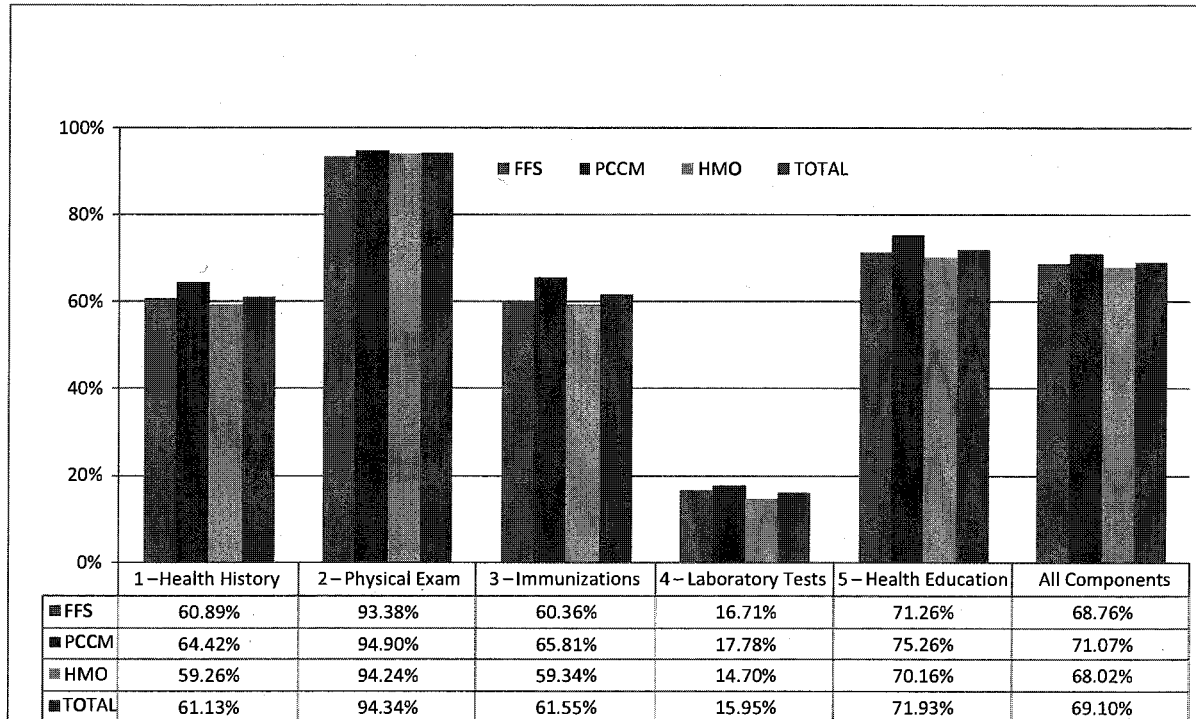
For Other THSteps, completeness rates averaged 59 percent statewide. Differences in rates between delivery models were not statistically significant.

Statewide, the average completeness rate for all components was 67 percent. Differences in rates by delivery model were not statistically significant.

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TMF also analyzed average completion rates for all components based on the five federally mandated elements, excluding Other THSteps. The average completeness rates by delivery model, as presented in Figure 4b, shows that this method of analysis increases the average completion rate for each delivery model by a maximum of three percentage points.

**Figure 4b. Average Completeness Rates for Federal Elements 1 Through 5 and All, by Delivery Model**



**Average Completeness Rates by PSU**

TMF also examined the average completeness rates of each PSU for each of the five federally mandated elements and Other THSteps, as well as all elements combined. These rates, with their standard deviations, appear in Attachment L. Differences among PCCM service areas were statistically significant only for Federal Element 5 – Health Education, with anticipatory guidance.

*On average, medical checkups had two-thirds of age- and risk-appropriate components completed.*

Table 4 ranks the average completeness rates of primary sampling units within each delivery model for all elements combined. The average completeness rates ranged from 74 percent to 48 percent (HMO average was 66 percent). STAR health plans in the Lubbock, El Paso, Nueces and Tarrant service areas were clustered in the top one-third of HMOs

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for the combined elements. Both STAR and STAR+PLUS HMOs in the Harris and Dallas service areas were clustered in the bottom third. No single HMO or service area emerged as exemplary compared to its peers.

**Table 4. PSU Rankings within Delivery Model of Average Completeness Rates for 5 Federal Elements and Other THSteps**

Delivery Model/ Primary Sampling Unit	Name	Service Area	Program	5 Federal Elements and Other THSteps		
				Rank	Average Completeness Rate	Response Sample Size*
HMO					65.77%	4391
2	Superior HealthPlan	Lubbock	STAR	1	73.89%	91
1	FirstCare	Lubbock	STAR	2	71.50%	102
19	El Paso First Premier Plan	El Paso	STAR	3	71.45%	159
18	Superior HealthPlan	Bexar	STAR	4	69.05%	239
23	Superior HealthPlan	Nueces	STAR	5	68.90%	101
20	Superior HealthPlan	El Paso	STAR	6	68.86%	210
21	AMERIGROUP Texas, Inc.	Nueces	STAR	7	68.65%	100
22	Driscoll Children's Health Plan	Nueces	STAR	8	67.52%	143
31	Molina Healthcare of Texas	Bexar	STAR+PLUS	9	66.99%	12
5	Cook Children's Health Plan	Tarrant	STAR	10	66.87%	102
4	AMERIGROUP Texas, Inc.	Tarrant	STAR	11	66.64%	251
3	Aetna Better Health	Tarrant	STAR	12	66.03%	95
14	AMERIGROUP Texas, Inc.	Travis	STAR	13	66.01%	101
7	Parkland Community Health Plan, Inc.	Dallas	STAR	14	65.98%	251
32	Superior HealthPlan	Nueces	STAR+PLUS	15	65.64%	79
17	Community First Health Plans	Bexar	STAR	16	65.40%	247
16	Aetna Better Health	Bexar	STAR	17	65.22%	99
9	AMERIGROUP Texas, Inc.	Harris	STAR	18	65.02%	249
10	Community Health Choice	Harris	STAR	19	64.39%	248
15	Superior HealthPlan	Travis	STAR	20	63.76%	201
29	AMERIGROUP Texas, Inc.	Bexar	STAR+PLUS	21	63.70%	37
33	Evercare of Texas	Nueces	STAR+PLUS	22	63.53%	12
11	Molina Healthcare of Texas, Inc.	Harris	STAR	23	63.41%	99
12	Texas Children's Health Plan	Harris	STAR	24	63.39%	243
6	AMERIGROUP Texas, Inc.	Dallas	STAR	25	63.22%	250
30	Superior HealthPlan	Bexar	STAR+PLUS	26	62.79%	99
13	United Healthcare Texas	Harris	STAR	27	61.75%	98
8	UniCare Health Plans of Texas, Inc.	Dallas	STAR	28	61.42%	102
24	AMERIGROUP Texas, Inc.	Harris	STAR+PLUS	29	60.60%	100
27	AMERIGROUP Texas, Inc.	Travis	STAR+PLUS	30	60.45%	68
26	Molina Healthcare of Texas	Harris	STAR+PLUS	31	59.57%	99
25	Evercare of Texas	Harris	STAR+PLUS	32	58.57%	101
28	Evercare of Texas	Travis	STAR+PLUS	33	48.15%	3

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**Table 4. PSU Rankings within Delivery Model of Average Completeness Rates for 5 Federal Elements and Other THSteps (continued)**

Delivery Model/ Primary Sampling Unit	Name	Service Area	Program	5 Federal Elements and Other THSteps		
				Rank	Average Completeness Rate	Response Sample Size*
PCCM					68.49%	2035
42	West Texas			1	71.69%	166
38	Southeast Texas			2	70.26%	218
44	Lower South Texas			3	69.84%	475
34	High Plains			4	69.67%	110
41	Upper South Texas			5	69.64%	143
43	Upper Rio Grande			6	69.25%	98
40	Central Texas			7	66.94%	249
35	Northwest Texas			8	65.25%	131
39	Gulf Coast			9	64.79%	98
36	Metroplex			10	64.16%	98
37	Upper East Texas			11	63.86%	249
FFS (45)					68.49%	480
Total					66.67%	6906

\* Results for PSUs with a response sample size less than 100 may not be reliable.

Only one of ten STAR+PLUS plans had a completeness rate above average for the HMO model. Eight STAR+PLUS plans ranked in the bottom 10. The STAR+PLUS program covers both acute care (as does STAR) and long-term care services (STAR does not). The children in the STAR+PLUS program are voluntary and represent a small percentage of the overall STAR+PLUS population. In fact, sample sizes were relatively small—less than the minimum desired sampling threshold of 100 records—for all of these plans. Caution is warranted in interpreting the significance of average completeness rates for PSUs with a response sample size less than 100 medical records.

Among PCCM models, there was a tighter range in completeness rates, varying from 64 percent to 72 percent (PCCM average was 68 percent). Again, no single PCCM demonstrated itself as a leader in completeness among its peers, using a benchmark of 80 percent.

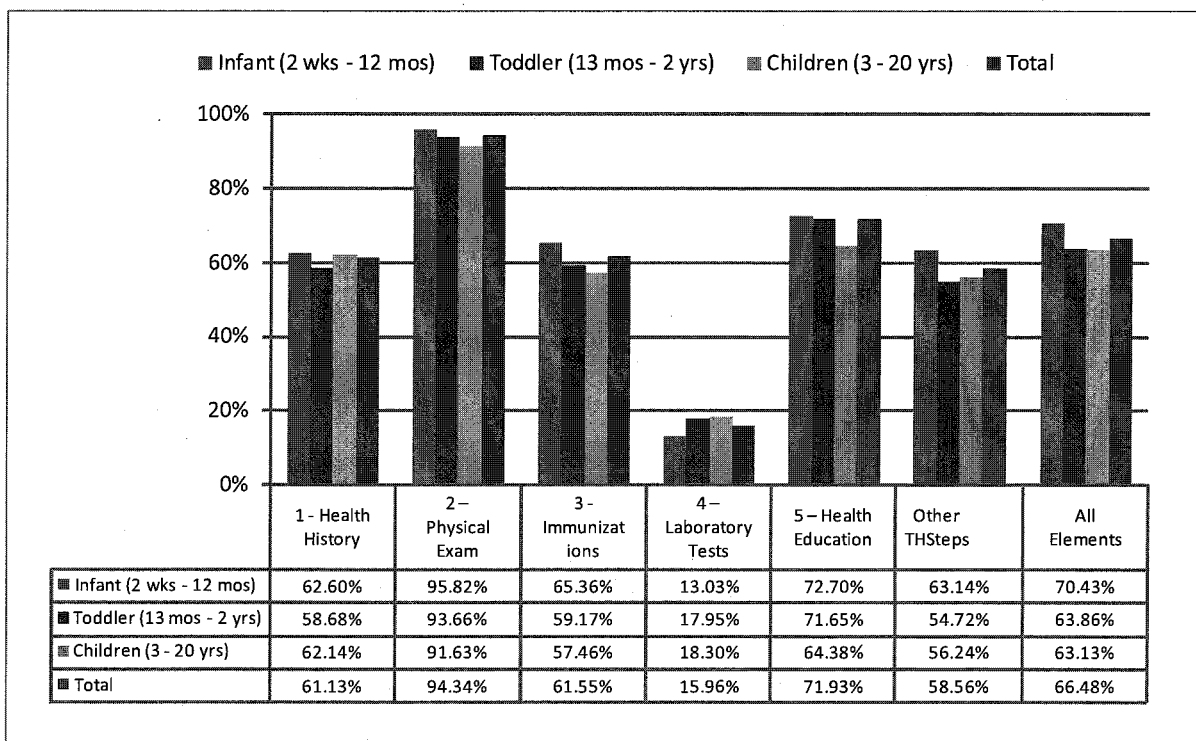
## **Average Completeness Rates by Patient Age and Race/Ethnicity**

### **Patient Age Groups**

As noted in the Study Methodology section, records examined for this study were segmented into three age groups: infants (2 weeks to 12 months); toddlers (13 months to 2 years); and children (3 years to 20 years). The average completeness rate for each age group is presented in Figure 5. Generally, rates were highest for infants.

Although the magnitude of differences in completeness rates between each of the age groups appears small from a practical standpoint, the statistical analysis revealed that the differences in average completeness rates for infants compared to toddlers were statistically significant for Federal Elements 1 through 4, Other THSteps, and all elements combined. In addition, differences in rates for infants compared to children were statistically significant for Federal Elements 2 through 5, Other THSteps, and all elements combined. Differences in rates for toddlers compared to children were statistically significant for Federal Elements 1, 2 and 5.

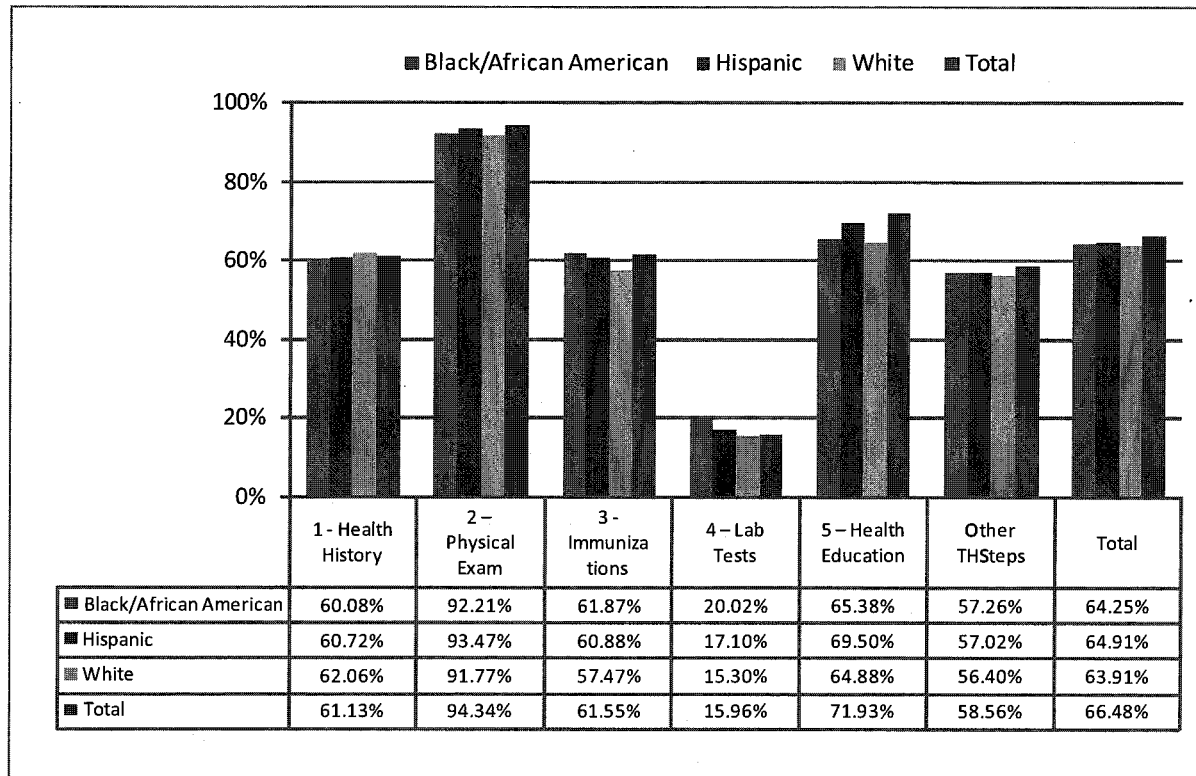
**Figure 5. Average Completeness Rates for Federal Elements 1 Through 5, Other THSteps and All, by Age Group**



### Race/Ethnicity

TMF also examined average completeness rates by race/ethnicity. Because the medical checkup sample sizes representing American Indian/Alaska Native and Asian populations were small (see Table 2 in Study Methodology), analysis of average completeness rates was limited to medical checkups representing black or African American, Hispanic and white populations, as shown in Figure 6.

Rates were calculated at a race/ethnicity-by-PSU level and averaged across the PSUs. No weighting was applied since sampling was not specific to race/ethnicity within a PSU. An ANOVA test for differences among three or more means revealed no statistical differences in average completion rates among blacks, Hispanics and whites.

**Figure 6. Statewide Average Completeness Rates for Federal Elements 1 Through 5, Other THSteps and All, by Race/Ethnicity**

### Average Completeness Rates for Medical Checkup Components

To gain a better understanding of the factors contributing to the average completeness rates, TMF examined the completeness rates of the individual components that comprise each element.

Based on reviewers' medical record observations and familiarity with the THSteps manual, including the periodicity schedule, the analysis includes discussion of potential or likely causes contributing to the relatively low or high completeness rates of the components that define the element.

Although TMF examined these rates within each delivery model, based on the limited variation by model, the completeness rates for the component measures of each federally mandated element and the other THSteps components are presented as the weighted averages of the total, statewide sample.

### Federal Element 1 - Comprehensive Health and Developmental History

The Comprehensive Health and Developmental History contains eight required measures, which include five types of health history: family, neonatal, physical, mental and developmental, and three types of screens: developmental health, behavioral risk factors and mental health.

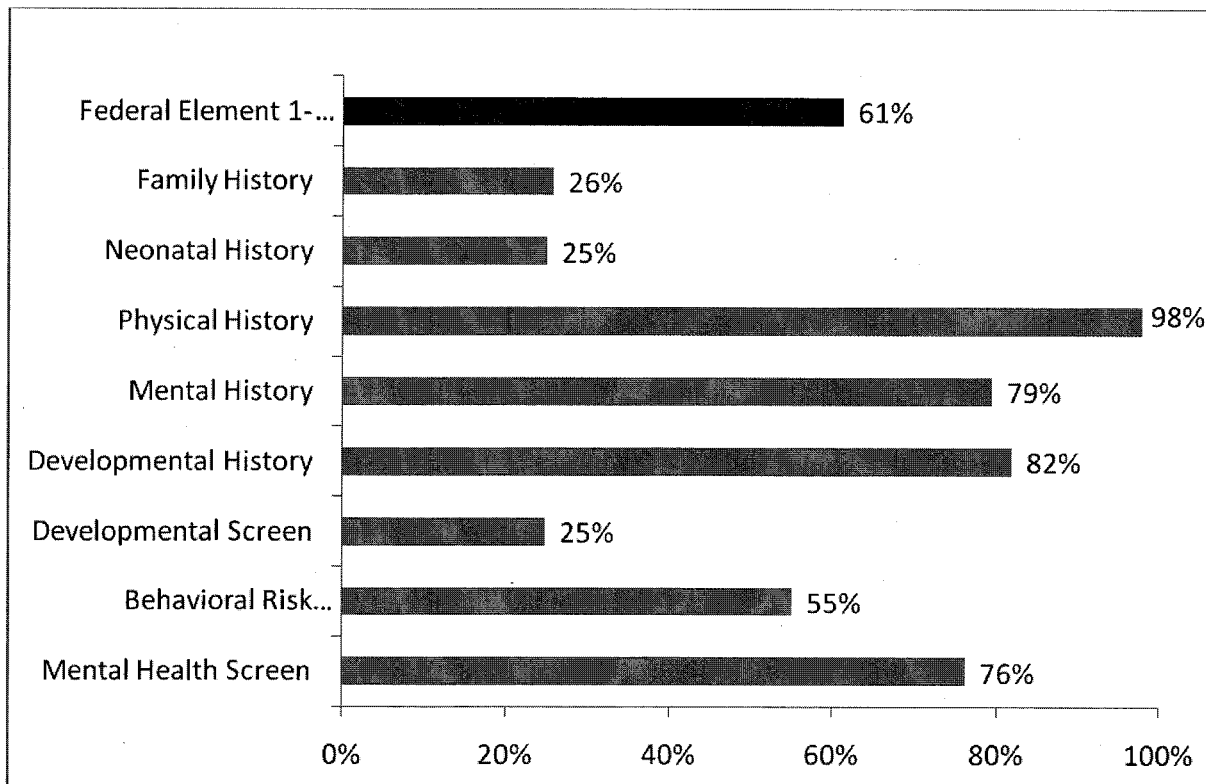
As shown in Figure 7, documentation of a physical history was almost always evident (98 percent). Average completeness rates for developmental and mental health histories were also relatively high (82



percent and 79 percent, respectively). However, family and neonatal histories had relatively low completeness rates of 26 percent and 25 percent, on average.

Documentation of mental health screens had a completion rate of 76 percent, while rates were much lower for the behavior risk factor screen (55 percent) and lowest for the developmental screen (25 percent).

**Figure 7. Statewide Average Completeness Rates for Health and Developmental History Components in Federal Element 1**



Medical record reviewers made a number of observations in their reviews of documentation which may provide insight into why completeness for some components is much lower than others.

For example, the Family Profile and Health section of the medical checkup form does not have a designated space to mark or write about family history. This may contribute to providers failing to document a family history even if one was performed. This tool does not prompt the provider to take a family history. While there is a separate DSHS form for the THSteps Family Medical History, it is not part of the visit form. Reviewers also did not observe medical records with a family history performed by a previous provider.

The issues are similar for neonatal history. Providers are required to conduct a neonatal history at the first medical checkup after birth (at 2 weeks of age). Through age 5, documentation of a completed

neonatal history is required at each medical checkup. Typically this is a copy of the hospital's birthing record. Some electronic health record printouts also had a specific neonatal history component. However, there is no state-generated form to collect a *complete* neonatal history if it is missing from the chart. Form C.5, Child Health History, has some information pertinent to the neonatal phase, but it is incomplete. The medical checkup form for the two-week checkup and for subsequent checkups does not provide a place for providers to indicate that the neonatal history has been completed or is present in the chart. Such a prompt would remind providers to complete this history if it is not in the medical chart. To meet compliance standards for this component, reviewers gave credit for completeness only when there was a specific neonatal history, on any type of form or progress note, present in the chart.

The developmental history component had a much higher rate of completeness than the developmental screen component (82 percent vs. 25 percent). One reason for this difference may be the greater complexity associated with completeness for the developmental screen. There are several types of screens for use with particular age groups, and the type of provider conducting the screen dictated the type of screening tool used. Documentation of both was required to be considered complete.

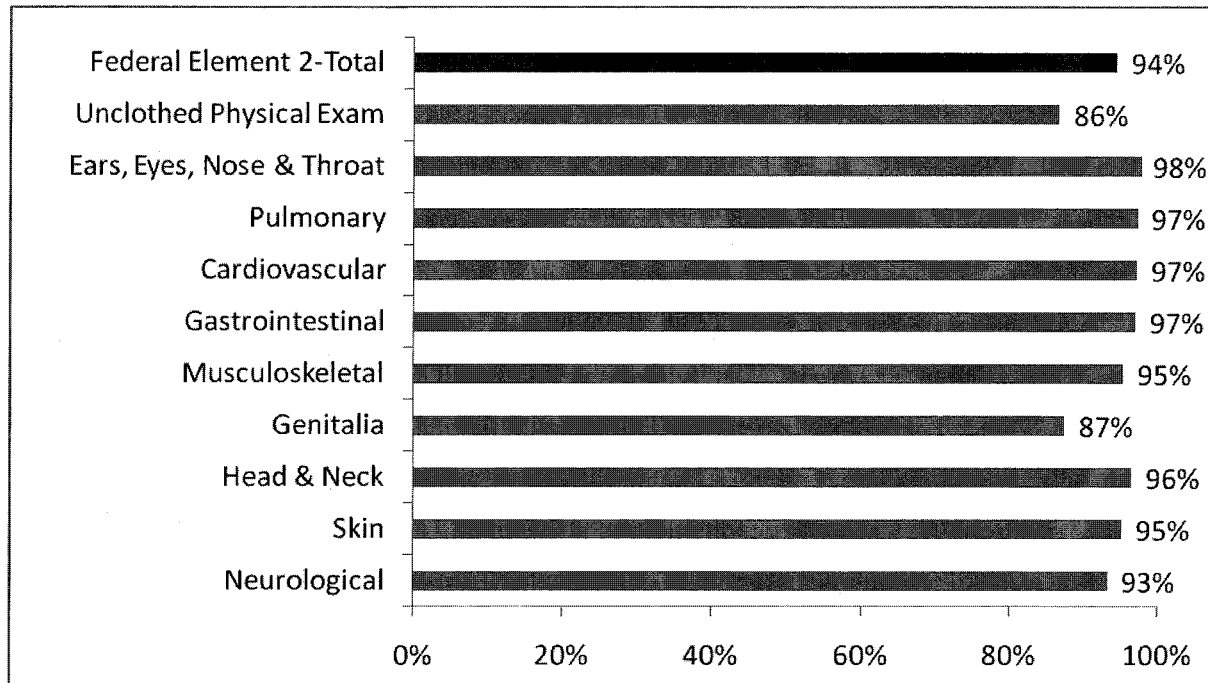
#### **Federal Element 2 – Comprehensive Unclothed Physical Examination**

The Comprehensive Physical Exam had the highest average completeness rate of the five federal elements (94 percent), as shown in Figure 8. This is the foundation of a medical checkup, and the components are prominently displayed on the medical checkup form for providers to easily check off the items associated with this component.

At the same time, it was often difficult to find documentation of an unclothed physical because forms do not indicate whether the exam was performed on a child who was clothed, unclothed or partially clothed, and it was not, in many cases, noted specifically by the provider.

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**Figure 8. Statewide Average Completeness Rates for Comprehensive Unclothed Examinations Components in Federal Element 2**



### **Federal Element 3 – Immunizations**

According to the 2008 manual, "All providers must assess the immunization status of the client at every encounter and administer any medically indicated immunizations according to the Advisory Committee on Immunization Practices schedule, unless medically contraindicated or because of a parent's or guardian's reason of conscience, including a religious belief. (Cases such as these, totaling five, were excluded from the analysis). The reason the indicated vaccination/toxoid was not administered must be documented in the client's medical record. The checkup provider is responsible for the administration of immunizations and must not refer clients to local health departments or other entities."

Reviewers noted completeness for this element if one of the following was checked or noted in the medical record:

1. Immunizations are up-to-date at the conclusion of the medical checkup.
2. Immunization status assessed but immunizations are not up-to-date:

*Immunizations were observed as complete with an up-to-date shot record or with documentation that the provider assessed immunization status and took appropriate action.*

- Immunization(s) given during the visit and
  - Provider documented the need for follow-up
3. Immunization was not given during the medical checkup due to a variety of reasons (e.g., refusal, lack of cooperation or left prior to exam completion) and provider documented the need for follow-up.

A copy of the shot record was required to determine that immunizations were up-to-date. If, for example, the documentation for immunizations was noted in the record as “given today” but no shot record was provided to reviewers, the component was analyzed as incomplete.

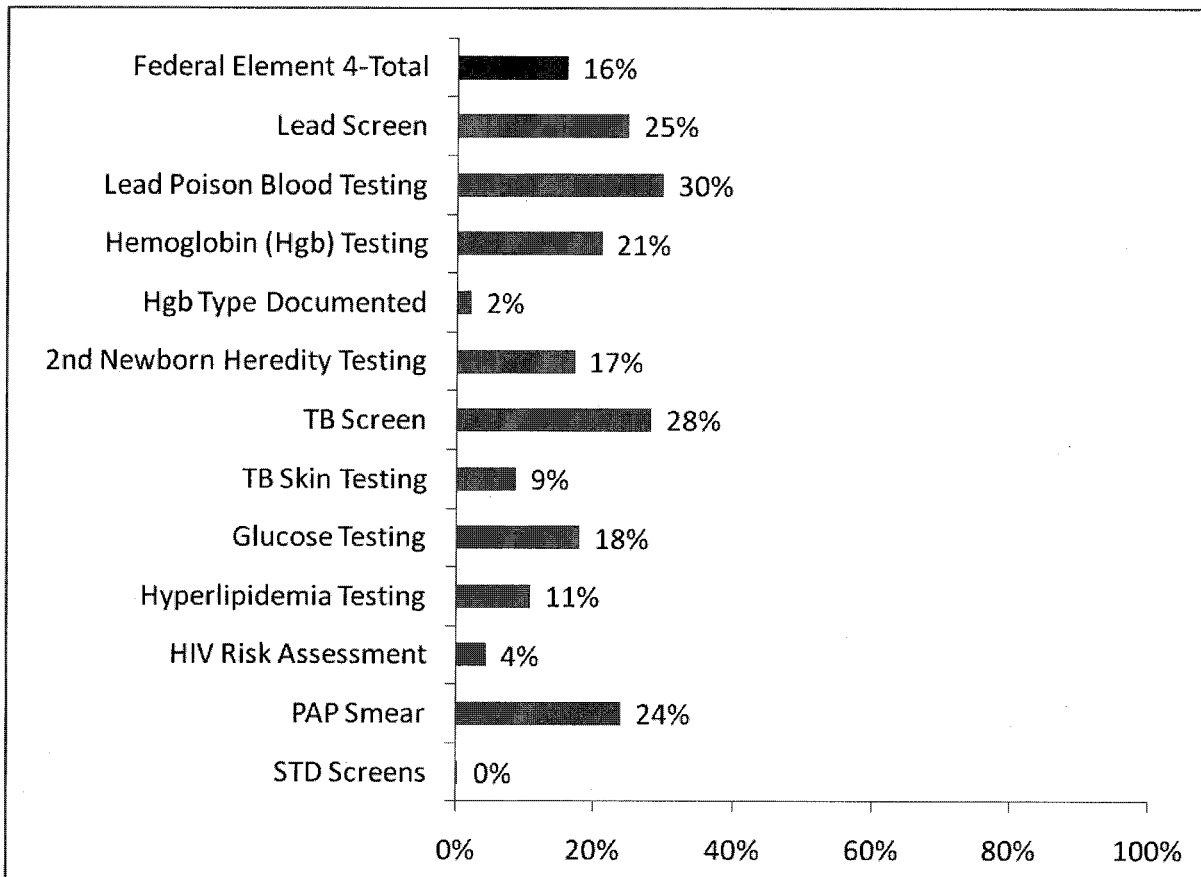
Since in practice, immunizations may have been provided outside the current provider’s office—at a former practice, health clinics, schools, health fairs or in other settings—those records may not make their way to the current provider’s office. Analysts noted that for 69 percent of the records that were not complete for immunizations, providers did not submit a copy of an immunization record to reviewers.

#### **Federal Element 4 – Laboratory Tests**

Completeness rates were low across the board for Federal Element 4. There are 12 components required under laboratory tests (including blood tests and screenings), although each laboratory test is not required at each age. In the analysis, only age-appropriate labs were reviewed for each visit. For TB skin testing, evidence of the test results was required for completeness. For all other laboratory tests, evidence of specimen collection and/or ordering the test was sufficient for completeness. Only three of the 12 components achieved a completeness rate at or above 25 percent: TB screening (28 percent), lead poison blood testing (30 percent) and lead screen (25 percent), as shown in Figure 9.

THSteps requires blood lead levels be tested at 12 months and 24 months. However, if a provider ordered these tests at a different medical checkup than the periodicity schedule requires, there is not a place (e.g., a yes/no box) on the THSteps forms to capture the lead testing results. Nevertheless, reviewers looked for any form of documentation for which a provider may have indicated a lead screening and gave credit for completeness if it was recorded.

The THSteps manual notes that if blood (Hgb) type has been performed previously and the results are documented in the client’s chart (it is part of newborn screening), it does not need to be repeated. Thus, the extremely low rate of completeness of Hgb type (2 percent) that reviewers observed in sampled medical records may reflect that the test results are not being entered into the child’s medical record once a pediatric medical home is established. If it is missing from the record, the results would appear to indicate that providers are, overwhelmingly, not ordering this test in the absence of prior documentation. Although the rate is not as low for the second newborn heredity testing (17 percent), the reasons for a lack of completeness are likely the same.

**Figure 9. Statewide Average Completeness Rates for Laboratory Components in Federal Element 4**

For several laboratory components—including sexually transmitted disease (STD) screening, Pap smear, hyperlipidemia and glucose—a screening test is required only if a risk factor for a related condition is assessed, based on screening questions. If there was no documentation that the risk factors were assessed, the record was not part of the denominator for assessing completeness. In other words, only in cases where there was a positive screen for the risk factor was the record included in the completeness rate. In some cases the denominator that the rate is based on is relatively low.

For example, TMF found that for records of 11- to 20-year-olds, only 38 percent had indicated the provider screened or questioned the adolescent about sexual activity. Some providers may feel uncomfortable questioning adolescents and pre-teens about their sexual activity or risky behaviors. In addition, patients

*The results indicate that adolescents in the Texas Medicaid program are not being tested for STDs.*

who were screened were highly unlikely to tell their provider—only 6 percent of this age group or 77 records—that they were sexually active. The 0 percent STD screening completeness rate was based on a denominator of 77 records.

Further, to be in compliance with the STD component, providers must have shown that they performed or requested all four STD screens: evaluation for genital warts, cultures for gonorrhea, cultures for Chlamydia and a blood test for syphilis. The results of this study indicate that adolescents in the Texas Medicaid program are not being tested for STDs.

Low completeness rates for Federal Element 4 may suggest that systemic causes may be behind the results. The THSteps program requires providers to use the DSHS Laboratory for specimens collected for lead, total hemoglobin, hemoglobin electrophoresis, rapid plasma reagin, human immunodeficiency virus (HIV) and gonorrhea and Chlamydia screening. Pap smears must be sent to the Women's Health Laboratory in San Antonio. Screening for hyperlipidemia and type 2 diabetes may be sent to a laboratory of the provider's choice, including the DSHS Lab.<sup>4</sup> Preparing the specimens appropriately, mailing them to the laboratory and waiting for mailed results can be time consuming and costly for providers, equating to more than a week before routine specimens are returned to the provider.

Federal Element 4 may be an area where the state could conduct additional research based on the DSHS Laboratory's database and through a statistically valid survey of THSteps providers. Based on the sample medical records drawn from this study, DSHS could match the state laboratory data to determine if laboratory testing was completed but not recorded in the provider's record. This would be an appropriate secondary source to validate the findings in this medical records study. In addition, the state may want to consider conducting a statistically valid provider survey to determine the root causes of low completeness.

#### **Federal Element 5 – Health Education, Including Anticipatory Guidance**

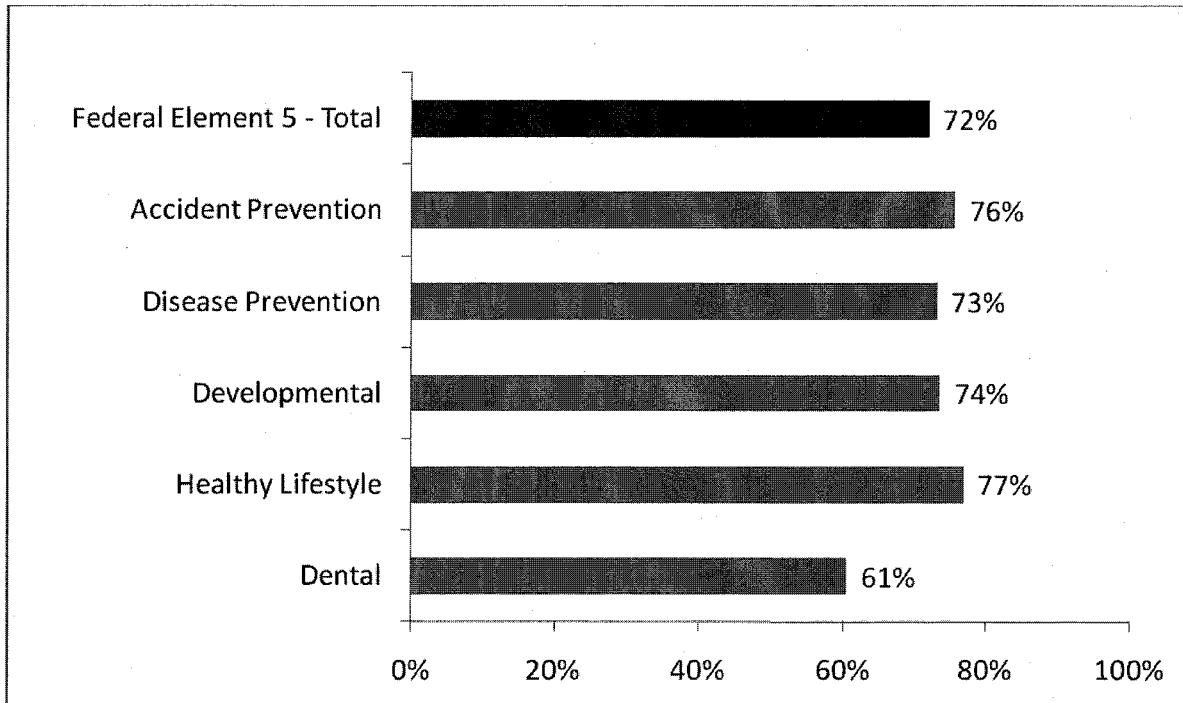
Health Education, Including Anticipatory Guidance, is a federally mandated element of EPSDT and, therefore, compels the THSteps program to require age-appropriate guidance as part of each medical checkup. As noted in the 2008 manual, this refers to “face-to-face health education and counseling with parents or guardians and/or adolescents to assist parents in understanding what to expect in terms of the patient's development, and to provide age-appropriate information about the benefits of healthy lifestyles and practices, and accident and disease prevention.” Specific topics also include dental health, sleep, feeding and nutrition guidance and lead poisoning risks. As described in the manual, written materials may be given but cannot replace face-to-face counseling. Reviewers closely followed these criteria in assessing the completeness of each health education component.

Reviewers gave credit for completeness of any component of health education/anticipatory guidance if at least one item listed under that component was checked or the entire topic was circled, with the assumption that face-to-face guidance was provided. If the provider only indicated providing a pamphlet related to a component, that component was considered incomplete.

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Anticipatory guidance was most often completed for the components related to healthy lifestyle topics (77 percent) and accident prevention (76 percent), followed by developmental expectations (74 percent) and disease prevention (73 percent). The completeness for the dental care component (61 percent), however, was well below the average for Federal Element 5 (see Figure 10).

**Figure 10. Statewide Average Completeness Rates for Health Education Components in Federal Element 5**



Reviewers observed a number of inconsistencies across forms and the manual, including the periodicity schedule, which may contribute to provider confusion about their obligations in providing and documenting health education components. For example, the medical checkup forms for children through age 10 refer to "health education" topics but do not mention anticipatory guidance, while the manual refers to "anticipatory guidance" rather than health education.

The topic headings or components also vary, as shown in Table 5, and in some cases have no parallel. Thus, the manual's topic headings that reviewers used as a guide to their observations of the medical records varied from the headings found on THSteps forms. Also noted was that the periodicity schedule does not list any topics included in anticipatory guidance.

**Table 5. Comparison of Anticipatory Guidance and Health Education Components in the 2008 Manual**

<b>Topics Included in 2008 Texas Medicaid Provider Procedure Manual for Anticipatory Guidance</b>	<b>Topics Included in THSteps Medical Checkup Forms (through age 10) for Health Education</b>
Development	Behavior
Healthy Lifestyle	Health Promotion
Accident Prevention	Injury Prevention
Feeding and Nutrition	Nutrition
Disease Prevention	<i>(no parallel topic)</i>
Dental Care	<i>(no parallel topic)</i>
Sleep	<i>(no parallel topic)</i>
Lead Poisoning Risks	<i>(no parallel topic)</i>

For children 11 to 20 years of age, the manual states that providers “must” give adolescents health guidance on physical growth and their psychosocial and psychosexual development and the importance of becoming involved in their health care, along with a list of seven topics for healthy lifestyles/safety practices and five topics for diet/fitness. For adolescents, providers are given the option of using a medical checkup form that lists “anticipatory guidance/health education” on the fourth and final page and refers providers to “topics discussed on the preventative services master checklist.” However, this 33-item checklist never refers to the term “health education” or “anticipatory guidance.” Similar topics (e.g., sexual activity, substance abuse) also appear up to three times on this checklist under the “patient screening,” “parent/adult counseled on” and “patient counseled on” sections.

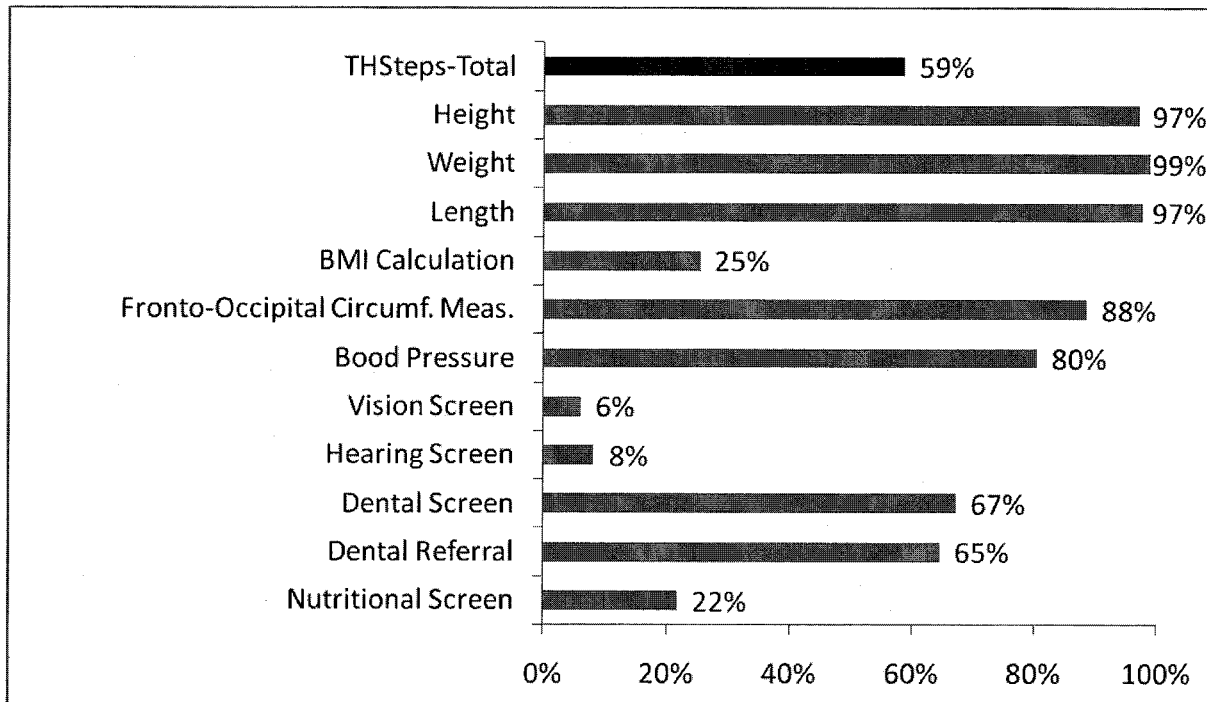
Additionally, the THSteps forms do not specify on the forms themselves that health education topics are required to be discussed face-to-face, although this is described in the footnotes of the periodicity schedule. In contrast, on the various THSteps forms for children through age 10, several age-appropriate items are listed under each health education topic, or component.

### **Other THSteps**

The THSteps program requires providers to complete 11 components, as appropriate for the patient’s age and risk, which were not assigned to one of the five federally mandated elements under this study design, and instead were categorized into a separate category of Other THSteps as described in the Study Methodology.

Figure 11 displays the average completion rate for each component. For virtually all records examined, providers documented height, weight and length—the most basic aspects of any medical checkup and standard pediatric practice.



**Figure 11. Statewide Average Completeness Rates for Other THSteps**

On the other extreme were vision screens (6 percent) and hearing screens (8 percent), for which reviewers rarely observed completeness. The low rates appear to reflect the operational definition of completeness that reviewers applied, based on the manual instructions. At certain ages, documentation of a particular type of screening is required, for example, but there is no place to report this on the form for vision, only for hearing.

*If completeness had been based on completion of any test (regardless of type), the average completeness rate for both vision and hearing screens would have been 60 percent, instead of 6 percent and 8 percent.*

Further analysis showed that 57 percent of the cases failing compliance for vision screens had recorded some type of vision test but not the correct one for the age at the time of the visit. Likewise, for hearing screens, 55 percent of the cases not in compliance had some type of hearing test noted in the medical record for the visit. If compliance had been based on documentation of any test (regardless of type), the average completeness rate would have been 60 percent for both vision and hearing screens.

And while documentation of hearing or vision screening results from a school is acceptable for demonstrating completion, that documentation must have made its way to the medical record or otherwise noted on the medical

checkup form for reviewers to consider this component complete.

Documentation of the body mass index (BMI) calculation was also relatively low (25 percent). A number of reasons may contribute to the poor completeness rate of a BMI calculation, which is required beginning at age 2. On the visit checkup form for older children (ages 11 and above), there is a place to indicate BMI, but this is not the case on forms intended for children ages 2 through 10. In electronic health records (EHR), however, the BMI can be automatically calculated. This does not necessarily ensure that a provider will note a need for follow-up if the BMI suggests obesity or risk of obesity. However, the visit record was still credited as complete for the BMI if it was recorded at all.

The nutrition screen also had a low rate of completeness (22 percent). Rather than noting "yes" or "no" as to whether the patient had any of the listed conditions to indicate whether a further screening about daily servings of major food groups was required, providers may have left this item blank when the patient did not have any of the listed conditions.

### **Other Reviewer Observations from Medical Record Review**

Reviewers made many general observations from the medical record review that helps inform the understanding of the lack completeness of medical checkups as highlighted below.

#### **Standards for Completeness**

Results from a number of examples described earlier, including immunizations and vision and hearing screens, revealed the standard required for providers to demonstrate compliance in the THSteps program was, in some cases, difficult for providers to meet, particularly if it involved documenting care provided in a setting outside the provider's office. In these cases and others, the complexity or rigorousness of compliance required by state policy may understate the level of services being provided.

#### **Forms, Manual and Periodicity Schedule Complexity and Inconsistencies**

Documentation may be impeded simply by a lack of space to record information. The family history is an example. In other cases, a lack of prompting or instructions directly on the form may lead to an incomplete medical checkup or missing documentation.

The volume of components required in the manual for a complete THSteps checkup and the difficulty in understanding the requirements in the manual may contribute to a lack of completeness. At the same time, inconsistencies across various forms and sets of rules may lead providers to omit required activities and/or inaccurately document them. For example, at certain ages, documentation of a particular type of hearing or vision screening is required, but there is no place to report this on the form for vision, only for hearing.

#### **Provider Issues**

Reviewers noted that providers did not always match the age of the child with the appropriate form based on age. In some cases, practices were also using out-of-date forms that do not reflect current requirements stipulated in the manual. Some providers have developed their own customized forms, some of which may not accurately reflect current THSteps requirements. In TMF's analysis,

documentation of the component was reviewed regardless of the type of form used by the provider; however, it is interesting to note the level of completeness by the type of documentation submitted for the review.

The type and combination of forms used for medical checkups varied considerably. While a majority (51 percent) of records was either THSteps forms only (17 percent) or THSteps forms in combination with other types of medical checkup forms (37 percent), nearly half of the records that providers submitted did not include a THSteps form, as shown in Table 6.

**Table 6. Types of Medical Record Forms Providers  
Submitted to Document THSteps Services**

Type of Forms Used and Submitted for Review	Number of Records	Percent
<b>THSteps Forms Used</b>	<b>3710</b>	<b>50.73%</b>
<ul style="list-style-type: none"> <li>• THSteps forms only</li> <li>• THSteps forms plus other medical checkup forms (e.g., Ages and Stages Questionnaire, growth and development chart, immunization record, TB, lead screening forms, Bright Futures)</li> </ul>	1153 2557	16.70% 37.03%
<b>THSteps Forms <u>Not</u> Used</b>	<b>2491</b>	<b>36.07%</b>
<ul style="list-style-type: none"> <li>• Provider-based medical checkup forms only (practice-specific physical evaluation forms and/or growth and development charts and/or immunization record)</li> <li>• Other medical checkup forms used (see above for examples)</li> <li>• No forms used (e.g., only progress notes submitted)</li> </ul>	1154 692 645	16.71% 10.02% 9.34%
<b>Electronic Health Record (EHR) Printout</b>	<b>705</b>	<b>10.21%</b>
<ul style="list-style-type: none"> <li>• Based on THSteps forms or provider-customized forms</li> </ul>		

Note: Due to rounding, total percentages do not equal 100 percent.

Further analysis revealed that completeness rates varied by the type of form submitted. Completeness rates were generally highest for records that included a combination of THSteps forms and other medical checkup forms. Records for which documentation was based on progress notes (no THSteps form or other medical checkup forms) generally had the lowest completeness rates, particularly for immunizations (19 percent vs. the overall average of 62 percent). Immunization rates were also much lower for records that included only EHR printouts (40 percent). EHR printouts, however, had the highest average completeness rates for Federal Element 1 – Comprehensive Health and Developmental History (65 percent vs. 61 percent for the overall average). In contrast, the completion rate for Federal Element 1 was just 54 percent when only THSteps forms were submitted.

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Reviewers also observed that in some cases, medical assistants performed the THSteps exam without either a physician's signature or acknowledgement by the physician of the findings, as required. However, reviewers noted that medical checkups conducted by a nurse practitioner or physician assistant were more likely to be complete than those conducted by a physician.

Finally, reviewers observed medical records of some medical checkups where it was evident the child was sick, which may have impacted the provider's ability to complete all age-appropriate components. Illness is an acceptable reason for not completing some requirements; a component would be considered complete in this circumstance as long as the provider documented the reason the component was not completed. However, reviewers generally did not observe such documentation for these cases. If such a case was observed not to have any components of a medical checkup or if no THSteps forms were found for such cases, the cases were excluded from the study. There were 54 cases which were eliminated from the study because there was inadequate documentation to indicate that a medical checkup occurred.

### **Limitations of Analysis**

A limitation of this study was that reviewers examined copies of medical records sent by provider practices to TMF, rather than visiting provider offices to review sampled records. Although the request letters to selected providers were explicit about required documentation to send, TMF could not verify that all requested and existing documents were made available to reviewers. It is possible that documentation for some components observed as incomplete may have been present in parts of a medical record but were not copied and sent to reviewers.

At the same time, a major strength of the methods used to draw the sample ensured it was representative of the population of children receiving medical checkups in the Texas Medicaid program, allowing for statistical analyses by age group, race and delivery model. Significant efforts were also made to ensure a strong statewide response rate of 82 percent.

## Policy Considerations and Recommendations

The low rates of completeness found in this analysis cut across delivery models, geographic regions and patient demographics. The problems with incomplete Texas Health Steps (THSteps) medical checkups are a system-wide issue that will require a comprehensive, multi-pronged solution. Texas is not alone in its need to improve THSteps completeness rates. A number of other states, generally as the result of lawsuits, have struggled with how to improve Medicaid Early Periodic Screening, Diagnosis, and Treatment (EPSDT) rates and related documentation. In order to inform the possible strategies available to Texas to improve completeness rates, we reviewed successful efforts in other areas of the country that resulted in improved EPSDT completeness. It is important to note that because the definition of a "complete medical checkup" is not defined in federal law, it is up to the individual state to set a standard for completeness. Thus, while the states profiled below may use different standards than the 80 percent completeness requirement referenced in the Corrective Action Order and may define "complete" in different ways, each has employed strategies that may help inform Texas' efforts to improve medical checkup completeness.

## EPSDT Improvement Initiatives in Other States

A number of states are engaged in efforts to improve preventive care for children in Medicaid. While improving documentation is rarely the sole goal of these programs, it is frequently a critical component of a larger quality improvement effort. Table 7 summarizes the key interventions available and indicates examples of states that have developed initiatives that could inform Texas' approach.

**Table 7. Other State Strategies to Improve EPSDT Documentation**

Strategy	D.C.	IL	NC	RI	TN	UT
Improve Form Layout or Content	•		•			
Require Use of Specific Forms or Screening Tools	•	•			•	
Conduct Provider Education	•		•		•	
Institute Financial Incentives				•		•

### District of Columbia: HealthCheck Provider Education System and Standardized Medical Record Forms

In 2002, as a result of a lawsuit (*Salazar v. the District of Columbia*), the District was ordered to improve the delivery of EPSDT services. The provider community petitioned the Court to adopt an innovative approach to improving services and documentation. Modeled after the District's successful immunization registry, the provider community proposed to partner with D.C.'s Department of Health, Medicaid Agency and Medicaid Managed Care Organizations (MCOs) to develop and implement city-wide standardized medical record forms (SMRFs) to guide and document a comprehensive HealthCheck visit. ("HealthCheck" is the term the District uses to describe an EPSDT visit.) The forms (there are seven in all, ranging from birth to age 21) were developed over the course of several years by a team of physicians.<sup>5</sup> As the District has followed national developments to make greater use of electronic health

records (EHR), the use of the paper forms is being phased out. However, the elements captured within the SMRFs are being used to inform the content of the EHR.

Additionally, in an effort to enhance health professionals' understanding of the requirements for delivering and documenting EPSDT services to Medicaid-eligible children, the District's Medicaid agency contracted with Georgetown University to develop a Web-based, interactive HealthCheck Provider Education System that includes a distance learning training curriculum and corresponding online resources, which specifically addresses documentation requirements.<sup>6</sup> The HealthCheck Provider Education System tool provides training and resources to assist in enhancing health professionals' understanding of the requirements for delivering and documenting EPSDT services to Medicaid-eligible children in the District of Columbia. The system is based primarily on information from the District's periodicity schedule, Bright Futures guidance and EPSDT information from the Centers for Medicare & Medicaid Services. The HealthCheck curriculum and resources are designed to help health professionals:

- Ensure optimal growth and development in all children and teens.
- Provide all required HealthCheck/EPSDT services at each preventive health visit.
- Document EPSDT visits using the new standard medical record forms.

Designed as a self-directed, online learning experience, the system provides a review of important EPSDT requirements and services and offers current information and updates about EPSDT services. The curriculum begins by walking users through information about EPSDT, from outreach and coordination to documentation and billing. It then provides an in-depth discussion of the components of a health visit: health and developmental history, physical examination, health screening and laboratory tests, immunizations and anticipatory guidance. The HealthCheck Provider Education System is the basis for a federally funded well child/EPSDT online curriculum (for more information, see <http://www.brightfutures.org/georgetown>). The project awards continuing medical education (CME) credits to those providers who complete all parts of the training and who correctly answer at least 70 percent of content questions.

Additionally, the District has included specific provisions within the MCO contracts that support ongoing EPSDT improvement activities (practice recruitment and provider training, annual EPSDT provider updates at local DC American Academy of Pediatrics (AAP) and health plan meetings). Combined with the provider education and outreach strategies, this creates a comprehensive approach to improving EPSDT documentation.

The HealthCheck project collaborated with the Department of Health and the Medicaid Agency to pilot and launch the DC HealthCheck Registry to capture EPSDT documentation. The HealthCheck Registry captures all of the key elements contained in the SMRF. By the end of 2006, more than 20,000 completed EPSDT visits had been entered into the new DC HealthCheck child health data registry. Preliminary data demonstrates:

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- The District has recruited, trained and implemented EPSDT SMRFs in more than 60 percent of DC Medicaid's provider community—representing close to 75 percent of DC Medicaid patient enrollees.
- EPSDT documentation for well child visits has improved from an initial 30 percent chart audit benchmark (2002) to greater than 90 percent (2006).<sup>7</sup> The District considers a well child visit to be complete if, at a minimum, the provider has documented provision of recommended care under each of the categories on the SMRF (e.g., History/Parent Concerns, Immunizations).

### **Illinois: Practice-based Education and Seminars**

The Illinois State Chapter of the American Academy of Pediatrics (ICAAP) has done extensive work to improve the quality of EPSDT services in the state. A particular focus of the chapter's efforts has related to provider training for developmental screening and medical home concepts in EPSDT.

ICAAP—in partnership with a broad group of stakeholders, including several state agencies—has developed a series of practice-based activities.<sup>8</sup> The topics for these activities are determined, in part, by annual needs assessments of ICAAP members. The sessions are developed by topic experts from the local academic community in consultation with practicing physicians and allied health care providers, and they are taught by Illinois physicians, nurses, physician assistants and medical office staff members. All programs feature segments on coding and billing and on staff roles. ICAAP has used a number of incentives to make the sessions as convenient as possible. These include offering flexible scheduling; snacks or a light meal; CME and other continuing education credits; and complementary patient education materials or professional manuals.

In addition, ICAAP is currently working with the state's Medicaid agency—the Illinois Department of Healthcare and Family Services (IDHFS)—to provide office-based training to four pilot communities, conducted by IDHFS as a part of a pilot project, called Healthy Beginnings, in Illinois.<sup>9</sup> The project is focused on two major goals:

- Increasing the number of young children who receive comprehensive primary care that addresses social and emotional development
- Improving the provision of mental health related services to Medicaid-eligible women and their children under age 3

The state is working to achieve these goals by increasing the use of formal screening tools, increasing referrals for intervention services and providing pediatric providers with improved access to materials on early childhood and perinatal mental health issues. An important element of the Healthy Beginnings pilot is the fact that officials in Illinois, working in collaboration with the provider community in their state, have decided to require the use of specific screening tools within the pilot, as opposed to letting providers choose which tool to use. This decision was supported by ICAAP because the chapter repeatedly heard from its members that they preferred to be offered an expert opinion on which tool to use rather than have to review and select a tool from the many developmental screenings currently

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available. The pilot program allows providers to use other screens, but reports are that requests to do so are rare.

#### **North Carolina: Provider Education on Required Developmental Screening Form**

Efforts to improve EPSDT services and documentation in North Carolina have benefitted from the state's highly engaged pediatric community. State officials have tapped into this resource to design and implement improvements within the state's EPSDT program. The state's Medicaid agency established a new policy in 2004 requiring that clinicians use a formal standardized developmental screening tool at specified well child visits. In order to be reimbursed for this activity, clinicians are required to list the screening code on the claim form. To help prepare the pediatric community for this change, the state Medicaid office worked with physicians and their professional associations to develop a series of day-long trainings across the state to help physicians' offices adopt practice patterns that would comply with the new policy.<sup>10</sup>

The trainings were held in local communities across the state and each was attended by clinicians and office staff from multiple practices. The training included components on integrating screening into practice and how to talk with families about developmental issues. A case study was reviewed, parents shared their stories and clinicians were offered an opportunity to network with local community staff who serve children.

The state, in partnership with a foundation-sponsored project, conducted a series of surveys to determine the impact of the trainings. The response from the surveys indicated that the percentage of providers using a screening tool increased from 69 percent to 81 percent. In addition, the percentage of families receiving information about early intervention services increased from 55 percent to 78 percent.<sup>11</sup>

#### **Rhode Island: Performance Incentive Program**

Rite Care is the Rhode Island managed care program for families covered by Medicaid. Since 1998, the state's contracts with health plans have specified administrative, access and clinical performance measures, with each measure having a standard. Under the Performance Incentive Program, health plans can earn payments over and above their capitation as rewards/incentives for improving performance. For EPSDT, the standard includes: a) 85 percent of members under age 2 are immunized according to schedule, b) members between [ages] 6 and 20 are provided EPSDT age-appropriate screenings and c) new members under age 18 receive a first visit with a PCP within 90 days of enrollment.<sup>12</sup>

#### **TENNderCare: Educational Resources and Reference Materials – Tennessee**

In response to a number of lawsuits regarding poor EPSDT performance, the TennCare Bureau contracted with the Tennessee Chapter of the American Academy of Pediatrics to create a statewide revision of guidelines on early childhood screening. The revised one-page forms<sup>13</sup> were developed by pediatricians with input from state staff, MCOs and TennCare representatives. Use of these forms helps to track the various age-specific requirements and ensure appropriate documentation of each service



provided. The revised forms provide clear guidance on health education and anticipatory guidance topics and are structured to encourage providers to correctly document all elements of the encounter. For example, Tennessee's revised screening form prompts the provider to specify if a newborn's physical exam was performed unclothed and, for all ages, offers specific prompts for health education (e.g., "car seat facing backwards for a newborn" vs. "car safety restraints," as is used in the Texas form.) Attachment M provides an example of a TENNderCare form.

Tennessee's TENNderCare program augments the assistance provided by the revised forms with a strong provider education component that specifically addresses documentation quality. Types of training and assistance available include:

- Overview of EPSDT
- Detailed review of EPSDT components and chart documentation requirements
- Review of appropriate coding for EPSDT and how to maximize reimbursement
- Mock audit on chart documentation quality
- Assistance in setting up office procedures to make EPSDT exams efficient and complete
- Customized EPSDT training upon request<sup>14</sup>

The Chapter offers free EPSDT training at provider practices and also offers an 18-minute CD-ROM or video detailing EPSDT requirements. Finally, the chapter has developed an EPSDT manual that includes information on the individual components of an EPSDT exam, documentation requirements and information and sample state audit tools, and provides examples of approved screening tools.<sup>15</sup>

#### **Utah: Pay for Performance**

Utah has leveraged its pay for performance program to engage MCOs through in-services and other tools and strategies to improve completeness and standardize coding. An early adopter of pay for performance in Medicaid, Utah focused its incentive program on improving EPSDT participation rates. Although the financial incentives were set relatively low, the competition among health plans and public reporting of results led health plan leaders to collaborate with Medicaid officials to improve understanding of measurement definitions and codes. The Utah Medicaid quality director noted in an interview to HMA (2006) about the effect of performance incentives for health plans to improve EPSDT participation rates: "The incentive strategy has motivated plans to monitor and improve their participation rates and to improve their data reporting, particularly the quality and timeliness of HMO reporting for the CMS-416 report."

#### **Common Themes of Successful State Strategies**

An evaluation of these efforts indicates common themes that Texas should consider when developing a plan to improve EPSDT compliance generally and documentation specifically.

- Provider participation is critical. In order to be effective, any strategy must be feasible given the realities that exist in today's provider practices. The most effective way to take these

considerations into account is to include providers and provider organizations in the development, implementation and dissemination of proposed solutions.

- Comprehensive approaches are necessary to address systemic problems. In many cases, poor compliance with completeness requirements is linked to a number of factors (i.e., payment practices, provider education, appropriateness of supporting tools/forms) and thus will require a comprehensive, multi-pronged approach to achieve meaningful improvements.

### **Likely Reasons Behind Incomplete Medical Checkups**

This study's objective was to determine the percentage of checkups in which all of the five federally mandated elements were fully documented and to assess likely reasons that checkup elements were not documented. This section of the report explores the factors that may be contributing to a lack of completeness and offers recommendations for addressing those factors.

When the required components of a medical checkup were not present in the medical record documentation, there were essentially two reasons why: (1) The required care was not provided, or (2) the required care was provided but not adequately documented.

#### **Required Care Was Not Provided**

Providers may not provide required care for a variety of reasons. The most common among these likely include the following:

##### ***Lack of Understanding of Requirements***

The requirements for THSteps completeness are extensive; a provider must complete documentation in up to 47 separate components (depending on the child's age and risk factors) in order to fulfill the requirements for completeness. Additionally, the lack of consistency across all sections of the manual (including the periodicity schedule) and the sample forms may make it difficult for providers to develop a full understanding of what components must be addressed and documented at each age interval. While the periodicity schedule provides age-specific requirements, some providers may not fully understand the various components of the medical checkup and what is required to satisfy each component. For example, the low rate (25 percent) found for developmental screens may indicate that providers do not understand when to use this screen.<sup>16</sup> The challenge of helping providers more consistently and accurately use developmental screenings has garnered significant attention through the Commonwealth Fund's Assuring Better Child Health and Development (ABCD) initiative.<sup>17</sup> The successes achieved by states participating in the ABCD initiative indicate that focused efforts to improve provider understanding of certain EPSDT requirements can improve outcomes.

##### ***Provider Discomfort or Reluctance***

Providers may be uncomfortable addressing with their patients the need for some of the recommended components of care, particularly those activities related to adolescent medicine, such as sexually transmitted disease (STD) tests or Pap smears. Screening rates for both human immunodeficiency virus (HIV) and STDs were very low (single digits and near zero, respectively); this may be explained by

providers' discomfort in asking questions about sexual activity, starting at age 11, that are a required component of the screening process. This may be a topic for which more targeted provider (or parental) education and outreach could be helpful.

#### ***Difficulty Providing All Services in One Visit***

Some physicians may find it difficult to complete the comprehensive THSteps medical checkup requirements in a single appointment. In a 2008 National Academy of State Health Policy forum, participants discussed the difficulty for physicians to manage their time and meet the comprehensive EPSDT screening requirements for Medicaid children.<sup>18</sup>

#### **Required Care was Provided but not Adequately Documented**

Reasons for lack of documentation when care was in fact provided likely include the following:

##### ***Poorly Designed Forms***

Providers may be using forms (e.g., the Child Health Record) that do not contain space to document all of the components of a medical checkup, are not designed to prompt the provider to note specific detail about the activity that is necessary for complete documentation or do not clearly match the instructions or wording used in the manual, including the periodicity schedule. For example, on the sample forms provided by THSteps, the Family Profile and Health section does not include space for the provider to document taking a family history or note one is attached. Additionally, calculating and documenting body mass index (BMI) is a requirement noted on the periodicity schedule for children ages 2 through 20, but the THSteps forms for ages 2 through 10 do not include space to record BMI, which both hinders documentation and fails to offer the provider the necessary prompt to collect and record this information. Finally, this analysis indicated that the use of EHRs can either hinder or help the rate of complete documentation, depending on whether the record is designed to fully capture all of the THSteps components provided with the necessary level of detail. For example, a well designed EHR will automatically calculate BMI from the child's height and weight and also provide a prompt for necessary intervention if the BMI is outside of normal limits.

##### ***Provider Confusion***

Providers may not have a full and accurate understanding of how to document all of the required components of a checkup. For example, referrals to obtain the recommended care are acceptable but only if the referral is documented. If providers are not clear that documentation needs to be present even if the child was referred elsewhere for care, then rates of completeness will not reflect the actual amount of care being provided. Additionally, TMF found that during the time of the review, there were various inconsistencies and inaccuracies across the THSteps forms and manual, including the periodicity schedule. This inconsistency can also lead to provider confusion that may cause incomplete documentation.

##### ***Care Provided Outside the Provider's Office***

When EPSDT was enacted in 1967, young children at all income levels overwhelmingly remained at home with their parents until entering public school. Today a substantial portion of low-income children

under age 5 spend a portion of each week in out-of-home child care. Yet, despite these changes, there is not CMS guidance regarding how EPSDT can help support effective development of health care services for children in child care settings.<sup>19</sup> Failure to recognize preventive care outside of the official THSteps medical checkup means that documentation requirements and practices are not designed to facilitate the capture of information provided outside of the provider's office. This change in practice patterns is most likely to affect the vision and hearing screenings and immunizations portions of the medical checkup. Thus, despite the fact that many children may receive vision and hearing screenings at school or in other child care settings, many of these screenings are likely not documented by providers because caregivers do not bring documentation of the child's vision or hearing test to the child's medical appointment.<sup>20</sup> Without this evidence, the provider cannot document that the necessary screenings were completed.

### ***Provider Motivation***

If providers do not recognize the importance of complete documentation it is unlikely that they will dedicate sufficient time and attention to it. It may be that there are some providers who are not sufficiently motivated to ensure complete documentation of the care provided. Connecting completeness to financial incentives (e.g., pay for performance efforts) or disincentives (audits), or developing systems that publicly report documentation rates by provider or health plan, can encourage providers to devote sufficient time and energy to documentation activities.

### **Recommendations**

Many of the factors contributing to low rates of completeness are amenable to policy or administrative interventions by the state. Given the systemic problems that appear to be responsible for the low rates of completeness, Texas will need to provide strong state leadership and secure broad investment to achieve measurable improvements. However, the statewide totals for both absolute and average completion rates for physical exam exceeded the 80 percent benchmark referenced in the CAO. The activities that occur as part of a physical exam are the core of a pediatric practice and tend to be consistent regardless of whether a child is on Medicaid or has private/commercial coverage. Generally, the areas where rates of documentation were lowest were those that are specific to the broad coverage requirements that are contained in the EPSDT program (e.g. developmental screenings, etc.). This indicates that addressing the problems with documentation should be structured to ensure providers have a thorough knowledge of the requirement of the EPSDT program, particularly those parts of the program that are more comprehensive than what is generally provided in commercial coverage. Successful strategies will require active participation of multiple stakeholders; most critically, providers and provider organizations, health plans and state staff from all of the areas involved in the THSteps program must be involved.

As a point of departure for this effort, it may be helpful to conduct a thorough and broad survey of providers to identify the key barriers that providers perceive in providing and documenting a complete medical checkup. This survey should be comprehensive and address key areas highlighted in this analysis; particularly use of the state laboratory, coordination and transfer of records between

providers, particularly from inpatient to outpatient settings, and the documentation of screenings for vision and hearing.

Any solutions put forward should ensure that: THSteps policy as articulated in the manual is consistent with the forms and periodicity schedules; requirements are simplified where possible; and there is a strong provider outreach and education component to explain and support the proposed changes.

There are a number of strategies, many of which are interrelated, that Texas could pursue to address the reasons for poor rates of completeness noted in this analysis. Many of these strategies are already in use in other states, giving Texas the benefit of either replicating or enhancing existing interventions. The recommended strategies are provided in priority order, with those presenting the strongest case for assisting the state in meeting the 80 percent documentation completeness rate referenced in the CAO listed first. Finally, while these recommendations are provided as discreet strategies, achieving meaningful improvement will require a comprehensive approach. In particular, recommendations 1 through 4 will be most effective if implemented as a part of a coordinated approach.

**1. Simplify documentation requirements while maintaining the integrity of the THSteps program.**

Documentation should serve as a way for the state to understand what occurs in the context of a THSteps medical checkup and to provide a record that can be used to ensure payment is justified. When completeness requirements become too extensive, provider time and attention are diverted from the actual provision of care to the administrative requirements of documentation. The documentation requirements of the THSteps program are extensive; a provider must document addressing up to 47 separate components (depending on age and risk factors) in order to fulfill the requirements for complete documentation.

The existing requirements should be revised to simplify and streamline the necessary elements that must be addressed for a medical checkup to be considered complete. The goal of this effort should be to use documentation to support and ensure a comprehensive medical checkup. Where requirements are not essential to ensuring that a comprehensive medical checkup was conducted or conflict with the realities of how care is generally delivered, they should be revised.

- 2. Improve design and content of the child health record form.** The forms used by providers to document the medical checkup are a critical tool in efforts to improve completeness rates. Generally, the forms serve two important purposes: First, they provide a prompt for the provider to address the required element, and second, they simplify documentation by providing space and instruction for what needs to be noted to comply with the standards for correct and complete documentation. In order to support complete documentation, forms need to include space for all required components of a medical checkup. The results of this study indicate that when forms do not include space for the documentation of a particular component, providers rarely include the necessary documentation. Efforts to improve the content and layout of the forms can improve provider understanding of the required components of a medical checkup and can encourage more thorough documentation by noting the specific requirements of the screening directly on the form. In states that have successfully revised their EPSDT forms, strong partnerships with the pediatric

community (often through collaborations between the state chapters of the American Academy of Pediatrics or the American Academy of Family Physicians) were a key component of these efforts and helped to ensure that the revised forms responded to the needs of providers.

3. **Continue to increase and improve provider training opportunities.** Complete and accurate documentation requires that providers understand the components of the medical checkup, how to correctly document their activities and the importance of documentation. While the THSteps program offers provider training and education through the program's Web site, efforts to improve documentation completeness will require a more focused and energetic approach to provider training and education. States that have used provider training and education as a part of a strategy to improve documentation have partnered with the provider community and have often made provider training eligible for CME units. Generally, provider training efforts are conducted in tandem with another strategy, such as the adoption of revised forms or policies mandating the use of a specific screening tool.
4. **Ensure consistency across forms, manual and periodicity schedule.** As noted previously, TMF's analysis found various inconsistencies across the state's policy guidance and specifications for a complete medical checkup (i.e., the child health visit form, the periodicity table and the EPSDT manual). As Texas adopts strategies to improve documentation compliance, it will be important to ensure that these tools are reviewed in tandem with one another and that updates occur at the same intervals.
5. **Require use of a standardized medical record form.** The THSteps program makes child health record forms available to providers to assist in documenting all of the components of the medical checkup. Use of these forms is optional; providers are free to create and/or use alternative forms. TMF's analysis revealed that providers tend to use a variety of child health record forms, some of which are more likely to encourage a complete medical checkup than others. In the records reviewed for this study, providers used the THSteps forms only about half of the time. Thus, without a state requirement to use a standard form, any efforts to improve the design and content of the THSteps forms will have a limited impact. Requiring providers to use a standard form would reduce the variation in completeness that occurs simply as a result of some forms being more comprehensive than others. This requirement could be developed to outline the necessary components and wording of the required form, so that providers seeking to adopt EHRs would still be free to do so. EHRs can be a valuable tool in efforts to improve documentation rates, *if designed appropriately*. Finally, requiring the use of standardized forms would also help to ensure that appropriate updates and revisions to the manual, including the periodicity schedule, were incorporated into the forms used by providers. This strategy has been used in other states; however, we do acknowledge that this strategy may not be acceptable to Texas Medicaid providers, which is why we suggest any strategies for improving the completeness of medical checkups be discussed among a broad group of THSteps stakeholders prior to adoption by the state.

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6. **Develop financial incentive programs, such as pay for performance.** Financial incentive programs provide a motivation for both plans and providers to improve the completeness of the medical checkup. These types of programs focus efforts on increasing compliance with completeness requirements by encouraging improved documentation and increased effort to provide all components required for a THSteps medical checkup.

As Texas develops its strategies to improve medical checkup completeness, the work done by Bright Futures at Georgetown University to create a series of 10 training modules for health professionals who provide well child care in a variety of settings, including the EPSDT program, can serve as a supplementary resource. One of the modules focuses specifically on documentation. The documentation module operates on the maxim that "if it isn't documented, it wasn't done" and seeks to help providers use documentation as an effective tool to improve quality and continuity of care, provide a "virtual" medical home and facilitate claims review and reimbursement. Although the Bright Futures curriculum does not provide specific standards of what constitutes a complete medical checkup, it does offer states an additional tool to use in provider outreach and education efforts. The Bright Futures curriculum is available at: <http://www.brightfutures.org/wellchildcare/>.

While this study indicates that Texas faces significant challenges in achieving completeness rates defined by the CAO, the state is not alone in this issue and has the opportunity to benefit from the experiences and strategies of other states. Proposed solutions should be evaluated according to their ability to ensure consistency across the all sections of the manual and the sample forms; simplify requirements where possible; and provide strong provider outreach and education to explain and support the proposed changes.

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## List of Attachments

Attachment A: Primary Sampling Units  
Attachment B: Sampling Plan  
Attachment C: Detailed Response Rate by PSU  
Attachment D: Request for Medicaid Medical Records Letter  
Attachment E: Required Medical Record Documentation  
Attachment F: Medicaid Medical Record/Component Cover Sheet and Instructions  
Attachment G: Reminder Request for Medicaid Medical Records Letter  
Attachment H: E-mail Notification of Request for Medicaid Medical Records  
Attachment I: Data Collection Instrument and Instructions  
Attachment J: Crosswalk of Data Collection Instrument Questions to the THSteps Periodicity Schedule  
Attachment K: Analysis Plan  
Attachment L: Average Completion Rates by PSU  
Attachment M: TENNderCare Form

## Endnotes

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<sup>1</sup> The Harris SDA and Harris expansion service areas were combined into a single PSU for STAR and a single PSU for STAR+PLUS. This is consistent with the manner that the Texas External Quality Review Organization reports data and information for the Harris area. It is also consistent with other SDA regions where an urban area along with contiguous counties is combined into one SDA, as opposed to the urban area being the SDA and the contiguous counties being an expansion area.

<sup>2</sup> Schneider, K.M., Wiblin, R.T., Downs, K., and O'Donnell, B.E. "Methods for Evaluating the Provision of Well Child Care." The Joint Commission Journal on Quality Improvement, 27(12): 673-682 (2001).

<sup>3</sup> The Bonferroni adjustment is used to control for an inflated Type I error. A Type I error is finding statistical differences between groups when the differences are actually due to chance. Performing three multiple comparisons for each federal element, Other THSteps, and overall total results (21 total tests) at  $\alpha = 0.05$  would increase the overall chance of a Type I error to  $1-(1-.05)^{21}=.659$ . Using the Bonferroni adjustment decreases the  $\alpha$  level to .002, which reduces the overall chance of a Type I error for to  $1-(1-.002)^{21}=.041$  for each statistical test performed.

<sup>4</sup> Texas Medicaid Provider Procedures Manual, Section 43.3.

<sup>5</sup> For a sample form and information on the Bright Futures program, see <http://www.brightfutures.org/epsdt>.

<sup>6</sup> Description of D.C.'s HealthCheck program summarized from: Helen Pelletier, "How States are Working with Physicians to Improve Quality of Children's Healthcare," National Academy for State Health Policy (April 2006).

<sup>7</sup> Georgetown University, Bright Futures. HealthCheck Provider Education System Web site: <http://www.brightfutures.org/healthcheck/DCPICHQ.html> (accessed on February 10, 2010).

<sup>8</sup> Description of ICAAP program summarized from: Helen Pelletier, "How States are Working with Physicians to Improve Quality of Children's Healthcare," National Academy for State Health Policy (April 2006).



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<sup>9</sup> Illinois' Healthy Beginnings project is a part of the Commonwealth's Assuring Better Child Health and Development (ABCD) initiative.

<sup>10</sup> Description of North Carolina's efforts summarized from: Helen Pelletier, "How States are Working with Physicians to Improve Quality of Children's Healthcare," National Academy for State Health Policy (April 2006).

<sup>11</sup> Pelletier, H., "How States are Working with Physicians to Improve Quality of Children's Healthcare," National Academy for State Health Policy (April 2006).

<sup>12</sup> Health Resources and Services Administration, program description available at <http://www.hrsa.gov/epsdt/boosting.htm> (accessed on February 9, 2010).

<sup>13</sup> The forms developed for the TENnderCare program can be downloaded at <http://www.tnaap.com/EPsDT/encounterdocforms.htm>.

<sup>14</sup> Tennessee Chapter of the American Academy of Pediatrics, description of provider education programs available at <http://www.tnaap.com/EPsDT/educationalresources.htm> and <http://www.state.tn.us/tenncare/tenndercare/> (accessed on February 8, 2010).

<sup>15</sup> The manual can be downloaded from [http://www.tnaap.org/Files/EPsDT/TNAAP\\_EPsDTManual-2009.pdf](http://www.tnaap.org/Files/EPsDT/TNAAP_EPsDTManual-2009.pdf).

<sup>16</sup> It should be noted that in September 2009, the Texas Department of State Health Services implemented simplified requirements and additional reimbursement to increase the rate of standardized screenings performed as part of a medical checkup. As a result of these activities, this rate may now be higher.

<sup>17</sup> For more information on the ABCD project, see <http://www.abcdresources.org/>.

<sup>18</sup> "New Opportunities and Continuing Challenges: A Report from the NASHP EPsDT Forum," National Academy of State Health Policy (2008).

<sup>19</sup> Rosenbaum, S., Wilensky, S., "EPsDT at 40: Modernizing a Pediatric health Policy to Reflect a Changing System," Center for Health Care Strategies, Inc. (2008).

<sup>20</sup> The THSteps manual states that documentation of test results from a school vision screening program may be used in place of a vision or hearing screening if conducted within 12 months of the checkup. THSteps 2008 Manual, Sections 43.2.4.4. and 43.2.4.5.

**Attachment A**  
**Primary Sampling Units (PSUs)**

Table 1. STAR Plans

PSU	Service/Delivery Area	Delivery Service Model	HMO	Plan Code
1	Lubbock SA	STAR	FirstCare	50
2	Lubbock SA	STAR	Superior HealthPlan	52
3	Tarrant SA	STAR	Aetna Medicaid	67
4	Tarrant SA	STAR	AMERIGROUP Texas, Inc.	63
5	Tarrant SA	STAR	Cook Children's Health Plan	66
6	Dallas SA	STAR	AMERIGROUP Texas, Inc.	90
7	Dallas SA	STAR	Parkland Community Health Plan, Inc.	93
8	Dallas SA	STAR	UNICARE Health Plans of Texas, Inc.	94
9	Harris SA	STAR	AMERIGROUP Texas, Inc.	71, 7B
10	Harris SA	STAR	Community Health Choice	79, 7F
11	Harris SA	STAR	Molina Healthcare of Texas, Inc.	7G, 7J
12	Harris SA	STAR	Texas Children's Health Plan	72, 7C
13	Harris SA	STAR	UnitedHealthcare-Texas	7H, 7K
14	Travis SA	STAR	AMERIGROUP Texas, Inc.	16
15	Travis SA	STAR	Superior HealthPlan	10
16	Bexar SA	STAR	Aetna Medicaid	43
17	Bexar SA	STAR	Community First Health Plans	42
18	Bexar SA	STAR	Superior HealthPlan	40
19	El Paso SA	STAR	El Paso First Premier	37
20	El Paso SA	STAR	Superior HealthPlan	36
21	Nueces SA	STAR	AMERIGROUP Texas, Inc.	81
22	Nueces SA	STAR	Driscoll Children's Health Plan	82
23	Nueces SA	STAR	Superior HealthPlan	83

Table 2. STAR+PLUS Plans

PSU	Service Delivery Area	Delivery Service Model	HMO	Plan Code
24	Harris SA	STAR+PLUS	AMERIGROUP Texas, Inc.	7P, 54
25	Harris SA	STAR+PLUS	Evercare of Texas	7R, 55
26	Harris SA	STAR+PLUS	Molina Healthcare of Texas, Inc.	7S, 58
27	Travis SA	STAR+PLUS	AMERIGROUP Texas, Inc.	19
28	Travis SA	STAR+PLUS	Evercare of Texas	18
29	Bexar SA	STAR+PLUS	AMERIGROUP Texas, Inc.	45
30	Bexar SA	STAR+PLUS	Superior HealthPlan	47
31	Bexar SA	STAR+PLUS	Molina Healthcare of Texas, Inc.	46
32	Nueces SA	STAR+PLUS	Superior HealthPlan	86
33	Nueces SA	STAR+PLUS	Evercare of Texas	85

Table3. PCCM Regions

PSU	PCCM Regions	PCCM Regions	Delivery Service Model	Plan Code
34	1	High Plains	PCCM	2G
35	2	Northwest Texas	PCCM	2G
36	3	Metroplex	PCCM	2G
37	4	Upper East Texas	PCCM	2G
38	5	Southeast Texas	PCCM	2G, 2A
39	6	Gulf Coast	PCCM	2A, 2G
40	7	Central Texas	PCCM	2G
41	8	Upper South Texas	PCCM	2G
42	9	West Texas	PCCM	2G
43	10	Upper Rio Grande	PCCM	2G
44	11	Lower South Texas	PCCM	2G

Table 4. PCCM Expansion Counties

PSU	PCCM Regions	County	Delivery Service Model	Plan Code
34	1	Armstrong Bailey Briscoe Carson Castro Childress Cochran Collingsworth Dallam Deaf Smith Dickens Donley Gray Hall Hansford Hartley Hemphill Hutchinson King Lipscomb Moore Motley Ochiltree Oldham Parmer Potter Randall Roberts Sherman Swisher Wheeler Yoakum	PCCM	2G
35	2	Archer Baylor Brown	PCCM	2G

PSU	PCCM Regions	County	Delivery Service Model	Plan Code
		Callahan Clay Coleman Comanche Cottle Eastland Fisher Foard Hardeman Haskell Jack Jones Kent Knox Mitchell Montague Nolan Runnels Scurry Shackelford Stephens Stonewall Taylor Throckmorton Wichita Wilbarger Young		
36	3	Cooke Erath Fannin Grayson Palo Pinto Somervell	PCCM	2G
37	4	Anderson Bowie Camp Cass	PCCM	2G

PSU	PCCM Regions	County	Delivery Service Model	Plan Code
		Cherokee Delta Franklin Gregg Harrison Henderson Hopkins Lamar Marion Morris Panola Rains Red River Rusk Smith Titus Upshur Van Zandt Wood		
38	5	Angelina  Houston Jasper  Nacogdoches Newton  Polk Sabine San Augustine San Jacinto Shelby Trinity Tyler  Austin  Colorado	PCCM	2G
39	6		PCCM	2G

PSU	PCCM Regions	County	Delivery Service Model	Plan Code
		Matagorda Walker Wharton		
40	7	Bell Blanco Bosque Brazos Burleson Coryell Falls Fayette Freestone Grimes Hamilton Hill Lampasas Leon Limestone Llano McLennan Madison Milam Mills Robertson San Saba Washington	PCCM	2G
41	8	Bandera DeWitt Dimmit Edwards Frio Gillespie Goliad Gonzales Jackson Karnes	PCCM	2G

PSU	PCCM Regions	County	Delivery Service Model	Plan Code
		Kerr Kinney La Salle Lavaca Maverick Real Uvalde Val Verde Zavala		
42	9	Andrews Borden Coke Concho Crane Crockett Dawson Ector Gaines Glasscock Howard Irion Kimble Loving McCulloch Martin Mason Menard Midland Pecos Reagan Reeves Schleicher Sterling Sutton Terrell Tom Green	PCCM	2G



PSU	PCCM Regions	County	Delivery Service Model	Plan Code
		Upton Ward Winkler		
43	10	Brewster Culberson Hudspeth Jeff Davis Presidio	PCCM	2G
44	11	Brooks Cameron Duval Hidalgo Jim Hogg Kenedy Live Oak McMullen Starr Webb Willacy Zapata	PCCM	2G

*Note: To determine Sampling Unit for Plan Code=2G, the Beneficiary's county must map back to a PCCM Region.*

**Table 5. County Codes for Plan Code 2A**

PSU	PCCM Regions	County	Delivery Service Model	Plan Code
38	5	Hardin Orange Jefferson	PCCM	2A
39	6	Liberty Chambers	PCCM	2A

*Note: To determine Sampling Unit for Plan Code=2A, the Beneficiary's county must map back to a PCCM Region.*

Table 6. Fee-for-service (FFS) Regions

PSU	Regions	Delivery Service Model	Plan Code
45	Statewide	FFS	00, 17

# Final Sampling Plan -Revised

October 5  
2009

TMF Health Quality Institute submits the final sampling plan for the Medical Checkup Completeness Study RFP 529-08-0170.  
Study team members – TMF Health Quality Institute, Buccaneer Computer Systems & Service, and HMA.

Deliverable 2  
Activity 1  
Task 6

## Final Sampling Plan – Medical Checkup Completeness Study

### Background

As part of Texas Health and Human Services Commission's (HHSC) compliance with the requirements of a Consent Decree dated February, 1996, and a Check Ups Corrective Action Order (CAO), dated September 5, 2007, entered in the class action lawsuit, *Frew vs. Hawkins*, Civil Action No. 3:93CV65 requires HHSC to procure the services of a vendor to complete an independent, unbiased, statistically valid, and timely study of Texas Medicaid Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) medical checkup completeness.

In Texas, the EPSDT Program is known as the Texas Health Steps (THSteps) Program. The Texas Department of State Health Services (DSHS), a Health and Human Services agency, collaboratively administers THSteps with HHSC, the State Medicaid agency. HHSC's rules for the program are contained in Title 25, Chapter 33 of the Texas Administrative Code relating to Early and Periodic Screening, Diagnosis, and Treatment.

The study requires a review of medical records to determine if documentation exists proving the five federally mandated components of a complete THSteps medical checkup have been performed. The class members included in the study are Medicaid clients aged from birth through age 20 enrolled in traditional Medicaid as well as Medicaid managed care (HMOs and PCCM).

### Objectives:

1. Determine the percent of THSteps medical checkups in which all of the five federally mandated elements are documented. The five elements are the following:
  - a. A comprehensive health and developmental history, including an assessment of both physical and mental health development
  - b. A comprehensive unclothed physical examination
  - c. Immunizations appropriate for age and health history
  - d. Laboratory tests appropriate to age and risk, including lead toxicity screening
  - e. Health education, including anticipatory guidance.
2. Determine for THSteps medical checkups lacking documentation of one or more of these five elements, which of these elements are most commonly missed or not documented.
3. Assess reasons that checkup elements are most commonly missed or not documented.
4. Provide statistically valid comparisons among various Medicaid delivery models (Managed Care and fee-for-service [FFS]) and the various managed care organizations (HMOs) including primary care case management (PCCM) program within Service Delivery Areas (SDA) and members not enrolled in managed care from all parts of the state (FFS). The primary sampling units will

represent each distinct HMO, each PCCM Region, and FFS members collectively as an aggregate group.

#### Sampling Methodology

A variety of factors were considered when developing a sampling methodology to meet the requirements set forth in the CAO.

#### **Population**

The target population, or universe, consists of paid THSteps medical checkup claims and HMO checkup encounters for children enrolled in the Texas Medicaid program and eligible for THSteps medical checkups. When we refer to the population of THSteps medical checkups, it is understood that this includes PCCM and FFS claims and HMO encounters for these checkups. The dates of service are throughout SFY08 (September 1, 2007 thru August 31, 2008).

The following procedure codes for preventive well child examinations were selected for inclusion in the sampling frame: 99381 through 99385, and 99391 through 99395. Please note that claims and encounters for initial hospital/birth center newborn assessments (procedure codes 99460 through 99465) were not included in the sampling frame.

After careful consideration of the HHSC and Plaintiff Counsel's comments, we have determined that the THSteps medical checkups performed in the hospital for newborns will not be sampled in this study. There are two primary reasons for the exclusion of newborns in this study of the completeness of THSteps medical checkups. Both reasons have serious implications for the sampling specifications, source selection, records processing and timeframes for project completion presented in our RFP response.

1. At the time of birth, not all children are enrolled in Medicaid managed care. Hence, these cases do not fit into the sampling specifications given in the RFP (p.11) and the CAO (p.5) since it would be extremely difficult or impossible to assign an encounter to a PSU. Based on our experience, we would expect these checkups to have a higher completeness rate than compared to older age groups as well.
2. HHSC policy does not require a checkup be performed by a Texas Health Steps provider. If newborns do not already have a selected provider, the hospital assigns a staff physician to conduct the newborn checkup and then the hospital bills for this service. Therefore, the Primary Care Provider (PCP) may or may not have access to the medical record and may not have provided the service.

It is important to note that we did not exclude any EPSDT-eligible visits from the sampling frame. If the child was under the age of two weeks at the time of the office visit, these claims/encounters were

included in the sampling frame. There were 92,065 encounters/claims in the sampling frame where the child having a checkup was younger than 14 days - 3,383 of these visits were encounters/claims where the child was 3 days or younger.

While we recognize newborn checkups are an important component of the THSteps program, our recommendation would be to have a separate study to examine the rate of completeness for the newborn checkups in the hospital. We would further recommend that the sampling strata not be the distinct combination of service delivery areas and HMOs and PCCM regions but rather just the regions in the State since at the time of enrollment the newborn may not be enrolled in Medicaid managed care. It is important to note the newborn cases would probably require medical record requests from the hospital as well as the physician office, making these cases different from the rest of the sampling frame in terms of source selection and a records processing standpoint.

Denied claims were excluded from the sampling frame. THSteps medical checkups filed as an exception to the periodicity schedule were included in the population.

#### **Primary Sampling Units (PSU)**

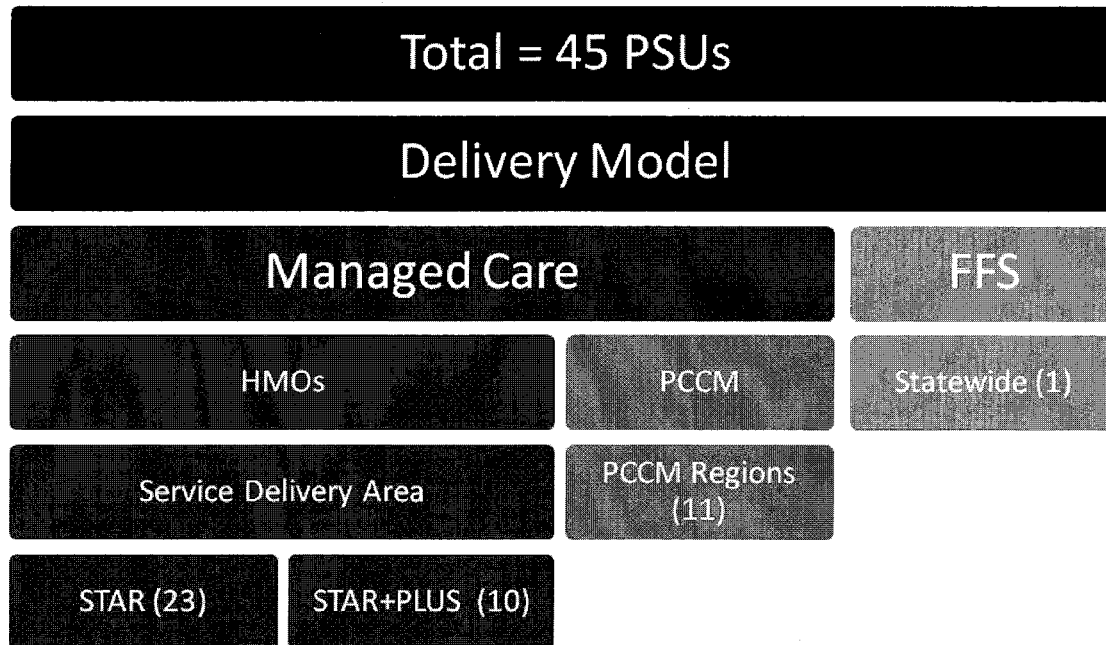
The population is stratified into distinct elements or units for sampling purposes. For the current study, every plan (or plan within a service delivery area) represents a primary sampling unit (PSU). If HMOs were present in an HHS region then the primary sampling unit was defined as the unique service delivery area (SDA) and delivery model combination, which includes specific HMO samples. There are a total of 45 PSUs for this study.

The Harris SDA and Harris expansion area were combined into a single PSU for STAR and a single PSU for STAR+PLUS network. This is consistent with the manner that the EQRO reports data and information for the Harris area (refer to Annual Chart Book prepared by ICHP). It is also consistent with other SDA regions where an urban area along with contiguous counties is combined into one SDA as opposed to the urban area being the SDA and the contiguous counties be considered as an expansion area. For the PCCM program, the primary sampling units correspond with the PCCM regions. For the FFS population, there is one statewide sampling unit.

The STARHealth program is not included as a PSU since it began in April 2008 and would not have a full year of claims history available for sampling purposes. Visits for beneficiaries in the program may be selected in the FFS stratum since the majority of claims would be filed within that delivery model system prior to April 2008. Similarly, two Integrated Care Management plans (in the Dallas and Tarrant regions) are excluded since this program did not take effect until February 2008 and would not have a full year of claims history. The Integrated Care Management (ICM) program was terminated in May 2009.

The numbers in the figure below represent the number of sampling units for each type of delivery model (see Figure 1).

Figure 1. Primary Sampling Units (PSUs) by Delivery Model



There are a total of 45 sampling units. PSUs will be aggregated to compare service delivery model and the various HMOs, and PCCM by SDA. For a detailed listing of the sampling units, refer to Attachment A.

### Sampling Strategy

Our major objective is to look at THSteps medical checkup completeness *within* each PSU (i.e., the CAO specifically asks whether fewer than 80% of checkups were complete in any plan, PCCM Region and FFS). Therefore, we use a proportional sampling strategy (Levy and Lemeshow, 1991) to improve the accuracy of visit completeness estimates for each plan. This methodology reduces margins of error compared to a uniform sampling strategy. Proportionate sampling accounts for the variation in plan/PSU population sizes for each of the 45 PSUs. This sampling strategy also allows us to accurately compare THSteps medical checkup completeness rates *between* plans (e.g., is the THSteps medical checkup completeness rate higher in Plan A versus Plan B?).

### Sample Sizes

The desired sample size for each PSU ( $n_i$ ) was ascertained by dividing the number of children receiving checkups in each plan ( $P_i$ ) by the universe of children in Texas Medicaid receiving THSteps medical checkups ( $P$ ) and multiplying by the overall statewide sample size ( $n$ ). The sampling fraction ( $f_i$ ) and plan specific sample size ( $n_i$ ) is given by:

$$f_i = P_i/P$$

and

$$n_i = n * f_i$$

Additional stratification within each PSU was used to account for the different number of annual visits required by the THSteps Periodicity Schedule for three different age groupings. The youngest group of infants, from approximately 2 weeks to 12 months old, should have six THSteps medical checkups in the first year of life. The next youngest group of children (toddlers), from older than 12 months to 2 years of age, should have three THSteps medical checkups in the second year of life. All children three years of age and older should have one THSteps medical checkup per year with the exception of 7 year olds and 9 year olds. Since we are not measuring THSteps visit compliance rates but rather assessing the completeness of THSteps medical checkups, any members regardless of age at the time of the medical checkup were included in the sampling frame and we will then assess whether the client received the federally mandated components of a complete THSteps medical checkup.

Within each plan (PSU), we randomly selected the sample of checkups ( $n_i$ ) from each of three age strata ( $p_1$  infants;  $p_2$  toddlers; and  $p_3$  children) – so that checkups were selected in proportion to the age distribution of patients with THSteps medical checkups for each plan. The age category is represented by  $j$  in the formula below (values from 1-3 represent the three age groupings). This age-proportionate sampling of THSteps medical checkups within each PSU is given by:

$$f_{ji} = P_{ji}/P_i$$

and

$$n_{ji} = n_i * f_{ji}$$

Within each of the three age strata for every PSU (e.g., for each age grouping in a HMO, each age grouping of a PCCM strata, each age grouping of the FFS strata) a simple random sample of THSteps medical checkups was selected, and the medical records for these visits will be requested for review. This methodology allows for each THSteps medical checkup within a stratum to have an equal probability of selection. Note that it is possible that a child may have checkups eligible for sampling in more than one age stratum, or if the child has changed plans within the study period, it is possible the child may have checkups in more than one PSU.

Major benefits of this sampling strategy are: 1) proportionate sampling of PSUs allows for ease of computing population estimates, or delivery model estimates, of THSteps medical checkup completeness; and 2) the age-stratification of patients within a PSU prevents over-weighting checkups in infancy and early childhood (i.e., selection of a simple random sample of visits within a plan would generally result in 6 times as many infant visits being sampled compared to adolescent visits). Previous work has indicated the completeness of the exam may vary by patient age (IFMC, 1999 and Schneider, et al, 2001).

The number of THSteps medical checkup records which may be abstracted has been funded at approximately 7,000. The number of children receiving at least one THSteps medical checkup during the study period is 1,483,039, and the number of paid THSteps medical checkups is 2,123,397 (see Table 1, below).



Table 1. THSteps Population, by Delivery Model. State Fiscal Year 2008.

Delivery Model	Population		
	# PSUs	# Children*	# Checkups <sup>†</sup>
STAR Plans	23	775,644	1,156,108
STAR +PLUS Plans	10	3,331	3,796
PCCM Regions	11	451,544	677,911
Fee-For Service	1	252,520	285,582
<b>Total Texas Medicaid</b>	<b>45</b>	<b>1,483,039</b>	<b>2,123,397</b>

\* The number of children is unduplicated within a plan and age stratum; if a child received THSteps medical checkups in more than one age grouping, or if he/she changed plans within the study period, the child may be represented more than once in the population.

<sup>†</sup> A checkup is defined as a unique combination of the claim number, Medicaid primary identification number, "from" claim date of service, and billing or submitting provider.

The universe of Texas Medicaid children with THSteps medical checkups during the one year study period is  $P=1,483,039$ . We will abstract approximately 7,000 medical records for the Texas Medical Checkup Completeness study ( $n$ ). The population sizes for each PSU, Delivery Model, and Texas Medicaid are documented in Attachment B.

#### Modifications to Intended Sample Sizes

Note that after calculating the intended proportional sample sizes, we were left with many PSUs that were too small to allow sufficient confidence in the resulting THSteps medical checkup completeness rates. In fact, this occurred for 10 STAR, all 10 STAR+PLUS plans and 3 PCCM regions (data not shown). As a result, we modified the proportional sampling strategy to include lower bounds, in terms of minimum sample size limits for the PSUs. This strategy also required the addition of an upper sample size limit, to optimally balance distribution of the abstractions between PSUs to meet the major study objectives within the budgeted number of abstracted records. Some plans had enrollment that was 100 times larger than other plans; however, we did not necessarily require a sample 100 times larger than the smaller plans in order to be confident in the stability of our findings.

A lower bound of 100 visit records was established, and calculations demonstrate that the expected level of confidence in the resulting THSteps medical checkup completeness rates should be sufficient (i.e., an estimated margin of error below 10% in each PSU). An upper bound of 250 records was established for all PSUs, except for two extremely large PSUs (the statewide fee-for-service [PSU-45], and the Lower South Texas PCCM [PSU-44]) – which comprised 30% of the entire population. We determined these two outlier PSUs might benefit from a somewhat greater level of confidence due to their importance for THSteps medical checkups delivery in the state. The upper limit for these two PSUs

was set at 475 abstracted visits. The resulting adjusted sample sizes, along with estimated margins of error are displayed in Attachment B. Note that the proportionality of sampling by age groups within the PSU is retained.

#### Calculation of Modified Proportional Sample Sizes

After subtracting the 950 records which will be abstracted for the two largest strata (the statewide FFS and the Lower South Texas PCCM), there were 6,050 record abstractions budgeted for the rest of the PSUs in the study. To avoid exceeding the allotted number of record abstractions, we assumed 6,000 record abstractions would be distributed proportionately across PSUs – except when upper and lower bounds modify this size. To determine the sampling fraction for the remainder of the PSUs, the population size was recalculated by removing the number of children with visits from PSUs 44 and 45 from the population denominator ( $1,483,039 - [201,273 + 252,520] = 1,029,246$ ). This resulted in 1,029,246 children represented by the remaining PSUs. Therefore, 1.029 million was used as our adjusted denominator for the PSU size calculations.

#### *Illustrative Example:*

If the West Texas PCCM had 28,542 children with THSteps medical checkups ( $P_i$ ), for a total of 44,972 paid THSteps medical checkups ( $N_i$ ) during the sampling time frame, the sample size of THSteps medical checkups ( $n_i$ ) needed from the West Texas PSU would be  $(6,000 * 28,542 / 1,029,246) = 166$ .

For these 166 THSteps medical checkups, for which medical record abstraction will occur, we selected a sample of THSteps medical checkups to abstract that are in proportion to the age-grouping of children with THSteps medical checkups within the plan.

The number of infants with at least one THSteps medical checkups in the West Texas PCCM was ( $P_{1i} = 9,574$ ), toddlers ( $P_{2i} = 6,579$ ), and children ( $P_{3i} = 12,389$ ). Our sample for West Texas PCCM must include  $n_{ji}$  sampled from each of the three age strata. For this example, the infant sample ( $n_{1i} = 9,574 * 166 / 28,542 = 56$ ); toddlers ( $n_{2i} = 6,579 * 166 / 28,542 = 38$ ); older children ( $n_{3i} = 12,389 * 166 / 28,542 = 72$ ).

#### Estimation Considerations

To verify that our proposed sample sizes would be sufficient to have a low margin of error for estimating THSteps medical checkup completeness rates for each plan (PSU), we calculated preliminary margins of error. The margins of error will indicate how precise our estimated sample proportion is for each of the PSUs. Our calculations assume we would like to be able to detect a 10% difference in THSteps medical checkup completeness between PSUs with 95% significance. We also assumed a conservative completeness rate of 60% for each PSU.

The margins of error for the THSteps medical checkout completeness rate for each PSU can be estimated by taking  $z_{\alpha/2}=1.96$  times the standard error in the sample rate computation. The formula for the margin of error calculations is given by:

$$1.96 * \text{SQRT}(p_i(1-p_i) * (N_i - n_i) / ((n_i - 1) * N_i))$$

The preliminary margins of error for each PSU are listed in Attachment B.

*Illustrative Example:*

To illustrate how to calculate the sample proportion and the standard error (and eventually the margin of error), we continue with the West Texas PCCM example from above. The plan had 44,972 paid THSteps medical checkups ( $N_i$ ), 166 of which were selected for medical record abstraction ( $n_i$ ). If we assume that 66 of these THSteps medical checkups documented a complete THSteps medical checkout ( $x_i$ ), then the proportion of complete visits for this PSU ( $p_i$ ) is  $x_i/n_i$  – or  $66/166=0.398$ . The standard error would be:

$$\text{SQRT}(0.398(1 - 0.398) * (59,214 - 166) / ((166 - 1) * 59,214)) = 0.038$$

The margin of error is  $1.96 * \text{the standard error}$ . This is represented by a 95% confidence interval for the population proportion completeness rate for this plan ( $39.8 - 1.96 * 3.8$ ,  $39.8 - 1.96 * 3.8$ ) = (32.4, 47.2). In other words, if 100 medical records were reviewed, the true THSteps medical checkout completeness rate for the West Texas PCCM would fall between 32.4% and 47.2% in 95 of the 100 record reviews.

Some PSUs have a very small population of THSteps medical checkups from which to make a sample selection. We were not able to select enough THSteps medical checkups to reach the minimum sample size threshold of 100 THSteps medical checkups to abstract for 6 of the 10 STAR+PLUS plans. In fact, one PSU (28 – Evercare of Texas in Travis SA) had only four medical checkups from which to draw a sample. For these very small populations, the margins of error will be small (e.g., basically zero if we abstract all four medical checkout records for PSU-28) since we have no error for estimating completion rates; we will have abstracted all cases and will know with certainty the actual completion rates for the Evercare of Texas in Travis SDA population.

In the analyses, THSteps medical checkout completeness rates for PSUs will be examined individually, and then aggregated to compare completeness between types of delivery models. The estimated margins of error for the delivery models are less than 3% (refer to Attachment B); therefore the sample sizes are sufficient for detection of even small differences in completeness between delivery models.

To ensure the selected samples were representative of the population of THSteps medical checkups in terms of race and gender, for each PSU we compared the distribution of the sampled race categories to

Attachment B

the population race categories (data not shown). The table below illustrates the racial distribution of the population and the sampled THSteps medical checkups for each delivery model.

Table 2. Racial Distribution of Population and Sample

		Amer Ind/AK Ntv	Asian	Black	Hispanic	Unknown	White	Total
STAR Plans	Sampled	10	0.3%	513	13.4%	2,620	68.3%	
	Not		1.7%				575	15.0%
	Sampled	4,626	0.4%	186,620	16.1%	751,416	65.0%	1,156,108
	Total	4,636	20,354	187,133		754,036	17,916	1,159,945
STAR +PLUS Plans	Sampled	2	0.3%	120	19.1%	331	52.7%	628
	Not		0.3%				43	6.8%
	Sampled	6	0.2%	1,123	29.6%	1,664	43.8%	3,796
	Total	8	38	1,243		1,995	896	4,424
PCCM Regions	Sampled	9	0.4%	276	13.5%	1,168	57.2%	2,041
	Not							
	Sampled	1,456	0.2%	64,833	9.6%	448,129	66.1%	677,911
	Total	1,465	2,629	65,109		449,297	7,799	679,952
Fee-For Service	Sampled	2	0.4%	71	14.9%	302	63.6%	475
	Not						73	15.4%
	Sampled	839	0.3%	41,611	14.6%	184,925	64.8%	285,582
	Total	841	3,074	41,682		185,227	11,150	286,057
Total Texas Medicaid	Sampled	23	0.3%	980	14.0%	4,421	63.3%	6,981
	Not						1,249	17.9%
	Sampled	6,927	0.3%	294,187	13.9%	1,386,134	65.3%	2,123,397
	Total	6,950	26,095	295,167		1,390,555	37,761	2,130,378

Constraints

We calculated the estimated margins of error based on the final number of abstracted records desired for each PSU. The actual margins of error for THSteps medical checkup completeness rates between PSUs can only be estimated prior to study initiation. Actual power to detect differences between plans is based on a number of assumptions (e.g., observed THSteps medical checkup completeness rates and final abstracted sample sizes) which cannot be fully known until data regarding completeness are obtained. Our calculations used conservative estimates in terms of completeness rates; therefore we do not anticipate margins of error would generally be lower than the figures shown in Attachment B.

The figures in Attachment B represent the target number of completed medical record abstractions for THSteps medical checkups, without consideration of potential response rates for medical record requests. It is anticipated that not all requests for records may be fulfilled by providers. We assume that we will request approximately 10% more records than the sample sizes above require, due to provider nonresponse or problems with mailing addresses. The numbers of completed records per PSU is an essential element of the margin of error estimates.

The current budget assumed a maximum of 7,000 charts would be reviewed, and at least a 10% oversample will be drawn. At the outset of the study we will request 10% more records than the final number of abstractions needed, to account for some provider non-response. It is possible that additional oversampling will be necessary for some PSUs.

Study Design Team

This sampling plan is authored by Brian O'Donnell, PhD and Kathy Schneider, PhD. Additional team members who contributed and reviewed the sampling plan are Nena Sanchez, MS, Marlo Harris, MS, Sue White RN, BSN, Melissa Rowan MSSW, Lisa Maiuro, MSHP, PhD, and Bethany Gabbard, PhD.

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## Attachment C

Sample Sizes and Response rates for Requested THSteps Visit Records, by Primary Sampling Unit\*

PSU	Original Sample and 1st Oversample			2nd Oversample			All Sampling Waves		
	# Valid Responses	Total Requested	Response Rate (%)	# Valid Responses	Total Requested	Response Rate (%)	# Valid Responses	Total Requested	Response Rate (%)
1	75	112	67.0	27	27	100.0	102	139	73.38
2	77	112	68.8	14	33	42.4	91	145	62.76
3	95	112	84.8	0	6	0.0	95	118	80.51
4	194	277	70.0	57	64	89.1	251	341	73.61
5	93	125	74.4	9	22	40.9	102	147	69.39
6	216	277	78.0	34	42	81.0	250	319	78.37
7	223	277	80.5	28	32	87.5	251	309	81.23
8	75	112	67.0	27	27	100.0	102	139	73.38
9	235	276	85.1	14	26	53.8	249	302	82.45
10	226	276	81.9	22	24	91.7	248	300	82.67
11	99	112	88.4	**			99	112	88.39
12	243	277	87.7	0	7	0.0	243	284	85.56
13	94	112	83.9	4	6	66.7	98	118	83.05
14	83	112	74.1	18	26	69.2	101	138	73.19
15	190	236	80.5	11	33	33.3	201	269	74.72
16	95	112	84.8	4	10	40.0	99	122	81.15
17	230	277	83.0	17	28	60.7	247	305	80.98
18	228	270	84.4	11	37	29.7	239	307	77.85
19	153	177	86.4	6	8	75.0	159	185	85.95
20	182	233	78.1	28	37	75.7	210	270	77.78
21	89	112	79.5	11	15	73.3	100	127	78.74
22	143	167	85.6	0	1	0.0	143	168	85.12
23	100	112	89.3	1	5	20.0	101	117	86.32
24	83	112	74.1	17	19	89.5	100	131	76.34
25	88	112	78.6	13	27	48.1	101	139	72.66
26	92	112	82.1	7	10	70.0	99	122	81.15
27	63	89	70.8	5	5	100.0	68	94	72.34
28	3	4	75.0	**			3	4	75.00
29	37	41	90.2	**			37	41	90.24
30	96	112	85.7	3	11	27.3	99	123	80.49
31	12	13	92.3	**			12	13	92.31
32	79	90	87.8	**			79	90	87.78
33	12	13	92.3	**			12	13	92.31
34	110	122	90.2	0	2	0.0	110	124	88.71
35	131	147	89.1	**			131	147	89.12
36	95	112	84.8	3	6	50.0	98	118	83.05
37	243	276	88.0	6	10	60.0	249	286	87.06
38	215	239	90.0	3	5	60.0	218	244	89.34
39	92	111	82.9	6	15	40.0	98	126	77.78
40	249	276	90.2	0	2	0.0	249	278	89.57
41	143	160	89.4	**			143	160	89.38
42	163	184	88.6	3	6	50.0	166	190	87.37
43	96	111	86.5	2	3	66.7	98	114	85.96
44	472	525	89.9	3	3	100.0	475	528	89.96
45	447	524	85.3	33	43	76.7	480	567	84.66
TOTAL	6,459	7,750	83.3	447	683	65.4	6,906	8,433	81.89

\* Visits that occurred between October 1, 2007 - September 30, 2008 were included in the sample.

\*\* For these PSUs, a second sampling wave was not required to meet the sampling threshold.



Attachment D

## TEXAS HEALTH AND HUMAN SERVICES COMMISSION

### Request for Medicaid Records

Insert Mail Date

ALBERT HAWKINS  
EXECUTIVE COMMISSIONER

«prov\_contact\_name»  
«prov\_name»  
«prov\_addr\_line\_1»  
«prov\_addr\_line\_2»  
«prov\_addr\_city», «prov\_addr\_state» «prov\_addr\_postalcode»

Dear «prov\_contact\_name»:

The Texas Health and Human Services Commission (HHSC) has contracted with TMF Health Quality Institute (TMF) to comply with the requirements of a federal court order in a class action lawsuit, *Frew v. Hawkins, et al. (Frew)*, Civil Action No. 3:93CV65. TMF has been selected to conduct a court-ordered study about the completeness of medical checkups in the Medicaid Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program, known as Texas Health Steps (THSteps) in Texas. A copy of the *Frew* court's order is located on HHSC's website:  
[http://www.hhs.state.tx.us/MotionCorrectiveActions/CA\\_Docs/3Checkups.pdf](http://www.hhs.state.tx.us/MotionCorrectiveActions/CA_Docs/3Checkups.pdf)

We are asking for your cooperation in providing the Medicaid records described below, to HHSC's agent, TMF, as required by your HHSC Medicaid Provider Agreement, Section 1.2.3. Disclosure of these records is also authorized by federal and state law, including HIPAA<sup>1</sup>. If the records are not received within the required timeframe, HHSC will be notified of the provider's failure to comply with the request for Medicaid medical records, which could result in provider sanctions as described in the Medicaid Provider Agreement (citing 1 T.A.C. §371.1643).

Enclosed is a list that identifies the Medicaid THSteps patients in your care who met the sampling criteria for this study. Also enclosed is a Medical Record Component/Cover Sheet for each case selected, instructions for completing the cover sheet, a listing of the documents that must be included in the medical record and a mailing label for submitting the records to TMF.

For each case on the list, please submit, on or before **Insert Date Due**, a complete medical record, up to and including the date(s) of service referenced on the list. If the record(s) requested are located at a different site, please forward this letter and all attachments accordingly. Should you have questions regarding this request, contact TMF's Sue White, Director, Quality Consulting Services at 512-334-1740.

Sincerely,

A handwritten signature in cursive script that reads "C. E. Bell, M.D.".

Charles E. Bell, M.D.  
Deputy Executive Commissioner for Health Services

CB:SH

Enclosures      Listing of Records Selected  
                    Medical Record/Component Cover Sheet for Each Record Selected  
                    Instructions for Completing Medical Record/Component Cover Sheet  
                    Documents Required in the Medical Record  
                    Return Mailing Label

cc:      HHSC Legal Services Division

<sup>1</sup> Health Insurance Portability and Accountability Act (HIPAA) permits your disclosure without the an individual's authorization or opportunity to agree or object, under various HIPAA provisions such as: 45 CFR 164.506(c)(payment and operations); 164.512(a)(disclosures required by law), (b)(public health), (d)(health oversight), (e)(1)(i) (court order); and (i)(research). This disclosure also directly relates to HHSC's administration of the THSteps Medicaid program, according to 42 U.S.C. §1396a(a)(7) and Tex. Hum. Res. Code §§12.003; 21.012.



## **REQUIRED MEDICAL RECORD DOCUMENTATION**

Submit any and all medical records and documentation, including but not limited to the following items (*make sure all pages of double sided documents are included*):

- Child health history,
- Family health history,
- The neonatal history if the request is for a child 5 years of age or under,
- Vision screening documentation (including results of vision screenings),
- Hearing screening documentation (including results of hearing screenings),
- Screening forms, parent questionnaires and/or assessments used for any of the following:
  - Developmental assessments
  - Behavioral health risk assessment
  - Nutrition screening
  - Mental health screening
  - Tuberculosis screening
  - HIV screening
  - Sexual history
  - Sexually transmitted disease screening
  - Lead screening
- Physical examination records/notes,
- Immunization records,
- Screening/laboratory results including:
  - Newborn heredity/metabolic testing if the patient is 2 weeks to 15 months old
  - Hemoglobin or hematocrit testing
  - Blood lead screening
  - Hemoglobin type
  - Hyperlipidemia screening
  - Screening for Type II Diabetes or glucose testing
  - Pap smear results
  - HIV testing
  - Sexually transmitted disease testing
- Documentation of health education/anticipatory guidance,
- Documentation of all referrals.
- If utilized, THSteps forms or other forms or tools where well-child screening documentation exists (*Bright futures, electronic health reminders, schedules, etc.*).

## **INSTRUCTIONS - MEDICAL RECORD/COMPONENT COVER SHEET**

- To receive reimbursement for first-class postage and the allowable photocopying, the information must be entered on the Medical Record/Component Cover Sheet.
- The date, signature (name of person), and phone number of the person sending the records/documentation must be entered on the Medical Record/Component Cover Sheet.
- If a provider cannot submit a medical record copy as requested, he/she is to check one of the following on the Medical Record/Component Cover Sheet.
  - (1) The enrollee is not my patient.
  - (2) The enrollee is my patient, but had no office visits during this time period.
  - (3) The enrollee is my patient, but the chart cannot be located.
- A copy of the listing of medical records selected for review is to be placed on top of the medical records and the records must be in the order that they appear on the list.
- Utilize the enclosed return shipping label to submit the medical records and associated documentation for each case requested.

Attachment F

Medicaid Medical Record/Component Cover Sheet  
 TMF Health Quality Institute  
 Bridgepoint 1, Suite 300, 5918 West Courtyard Drive  
 Austin, TX 78730-5036  
 Sue White  
 512- 334-1740

Please complete this document and attach it to a copy of the medical record noted below. The record must be clipped or rubber-banded with this original cover sheet in order to ensure proper validation of receipt by TMF. Please copy both sides of each page of the medical record and DO NOT cut off pages when copying. Utilize the return mailing label included in the request packet to mail the package to:

Sue White, TMF Health Quality Institute  
 Bridgepoint 1, Suite 300 5918 West Courtyard Drive, Austin, TX 78730-5036

Reference Key: «refkey»  
 Provider ID: «providerid»  
 Provider Name: «prov\_name»  
 NPI Number: «npi»  
 Patient Name: «patientname»  
 Patient ID: «medicaidid»  
 DOB: «dob»  
 Service From: «servicefrom»  
 Service Thru: «serviceto»

**Selection Date: 09/14/09      Due Date: 10/16/09**

**FOR PROVIDER USE IF MEDICAL RECORD CANNOT BE SUBMITTED:**

- ☐ The enrollee is not my patient.  
☐ The enrollee is my patient, but had no office visits during this time period.  
☐ The enrollee is my patient, but the chart cannot be located.

**FOR PROVIDER USE:**

Total Number of Pages: \_\_\_\_\_ Postage: \$\_\_\_\_.

\_\_\_\_\_  
 Date Mailed      Signature      (Printed Name)      Phone Number

Attachment G



## TEXAS HEALTH AND HUMAN SERVICES COMMISSION

### Reminder Request for Medicaid Records

Insert Mail Date

ALBERT HAWKINS  
EXECUTIVE COMMISSIONER

«prov\_contact\_name»  
«prov\_name»  
«prov\_addr\_line\_1»  
«prov\_addr\_line\_2»  
«prov\_addr\_city», «prov\_addr\_state» «prov\_addr\_postalcode»

Dear «prov\_contact\_name»:

The Texas Health and Human Services Commission (HHSC) has contracted with TMF Health Quality Institute (TMF) to comply with the requirements of a federal court order in a class action lawsuit, *Frew v. Hawkins, et al. (Frew)*, Civil Action No. 3:93CV65. TMF has been selected to conduct a court-ordered study about the completeness of medical checkups in the Medicaid Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program, known as Texas Health Steps (THSteps) in Texas. A copy of the *Frew* court's order is located on HHSC's website:

[http://www.hhs.state.tx.us/MotionCorrectiveActions/CA\\_Docs/3Checkups.pdf](http://www.hhs.state.tx.us/MotionCorrectiveActions/CA_Docs/3Checkups.pdf)

TMF is issuing this notice as a reminder that the record(s) requested on the enclosed list, identifying the patients in your care who met the sampling criteria for this study, have not been received. You must provide the Medicaid records described below, to HHSC's agent, TMF, as required by your HHSC Medicaid Provider Agreement, Section 1.2.3. Disclosure of these records is also authorized by federal and state law, including HIPAA<sup>1</sup>. If the records are not received within the required timeframe, HHSC will be notified of the provider's failure to comply with the request for Medicaid medical records, which could result in provider sanctions as described in the Medicaid Provider Agreement (citing 1 T.A.C. §371.1643).

For each case on the list, please submit, on or before **Insert Date Due**, a complete medical record, up to and including the date(s) of service referenced on the list. Also enclosed is a Medical Record Component/Cover Sheet for each case selected, instructions for completing the cover sheet, a listing of the documents that must be included in the medical record, and a mailing label for submitting the records to TMF.

If the record(s) requested are located at a different site, please forward this letter and all attachments accordingly. Should you have questions regarding this request, contact TMF's Sue White, Director, Quality Consulting Services at 512-334-1740.

Sincerely,

*C. E. Bell, M.D.*

Charles E. Bell, M.D.  
Deputy Executive Commissioner for Health Services

CB:SH

Enclosures      Listing of Records Selected  
Medical Record/Component Cover Sheet for Each Record Selected  
Instructions for Completing Medical Record/Component Cover Sheet  
Documents Required in the Medical Record  
Return Mailing Label

cc:      HHSC Legal Services Division

<sup>1</sup> Health Insurance Portability and Accountability Act (HIPAA) permits your disclosure without the an individual's authorization or opportunity to agree or object, under various HIPAA provisions such as: 45 CFR 164.506(e)(payment and operations); 164.512(a)(disclosures required by law), (b)(public health), (d)(health oversight), (e)(1)(i) (court order); and (i)(research). This disclosure also directly relates to HHSC's administration of the THSteps Medicaid program, according to 42 U.S.C. §1396a(a)(7) and Tex. Hum. Res. Code §§12.003; 21.012.